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ABSTRACT

This study investigates the career paths and mobility factors of female chief academic officers (CAOs) in public community colleges. Analysis revealed the most significant predictors for the career paths to be entry port, number of higher education positions held, and the first prior position held. Gender did not significantly influence mobility or institutional type. Analysis of the influence of gender on the career paths and mobility concludes there is no significant difference in the career path, entry port, first prior position held, number of positions held, or number of years in faculty and administrative positions. However, these women did serve in their first, second, and fourth positions for significantly less time than their male peers. It was concluded that: (1) gender strongly influenced the number of years held in each position but did not influence the mobility and career paths of women CAOs; and (2) women CAOs are younger and moving faster through their career paths than their male peers. Even though gender does not have a significant influence on the variables investigated, this does not preclude an important role by gender in how women navigate their career paths. Contains 15 tables, 3 figures, 155 references, and 6 appendices. (KP)

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WOMEN CHIEF ACADEMIC OFFICERS OF PUBLIC COMMUNITY COLLEGES: CAREER PATHS AND MOBILITY FACTORS

by

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A DISSERTATION IN
HIGHER EDUCATION
Submitted to the Graduate Faculty
of Texas Tech University in
Partial fulfillment for
the degree of

DOCTOR OF EDUCATION

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I dedicate this dissertation in loving memory of my father, David L. Bilyea, D.O., F.A.C.O.S. May I always maintain his unquestioning integrity, his high expectation of student performance, and his compassion for his fellow man.

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ABSTRACT

The office of the chief academic officer (CAO) is generally recognized as the highest-ranking academic administrator for the institution. Previous studies concerning career paths of academic administrators have not specifically focused on the office of the CAO, nor have they investigated women holding these positions. The focus of this investigation was the career paths and mobility factors of women CAOs in public community colleges.

The profile of this CAO is a married Caucasian woman who is 51 years old, has held her current position five years and is representative of the 38.7% of the position holders in 1999. Her career path began as a faculty member where she eventually accepted administrative responsibility and has previously held a primary administrative position.

A CHAID analysis revealed the most significant predictors for the career paths to be entry port, number of higher education positions held and the first prior position held. When analyzing the influence of gender on the mobility and institutional type, it was determined there was no significant influence by gender. Analysis of the influence of gender on the career paths and mobility of these CAOs concludes there is no significant difference in the career path, entry port, first prior position held, number of positions held, or number of years in faculty and administrative positions. However, these women did serve in their first, second and fourth positions significantly less time than their male peers.

It may be concluded that gender strongly influenced the number of years held in each position but did not influence the mobility and career paths of women CAOs in public community colleges. A secondary conclusion is that women CAOs are younger and moving faster through their career paths than their male peers. It should be recognized that even though gender does not have a significant influence on the variables investigated in this study, this does not preclude an important role by gender in how women navigate their career paths. Mobility and career sequence are determined by a wide array of factors and further research into these factors is recommended.

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CHAPTER I

INTRODUCTION

The office of the chief academic officer (CAO) requires a balance of being a strong leader and an effective manager of the academic mission of an institution. The holder of this office is recognized as the highest-ranking academic administrator for the institution. Esmond (1989) elaborates by defining the position as, "the senior administrative officer responsible for the direction of the academic program of the institution. He/she usually reports directly to the president and, depending on the size of the college and its structure, may be called a variety of titles" (p.10).

The CAO is the most common position to be held preceding the presidency (Lynch, Bowker, & McFerron, 1986; Plotts, 1998; Ross & Green, 1998; Twombly, 1986b). Vaughan (1986) reports that 50% of the presidents in community colleges held the position of dean of instruction, a common community college title for the CAO, immediately prior to the presidency. Twombly (1988) also confirmed the importance of the CAO position in the community college career path leading to the presidency.

In their work, Cohen and March (1974) proposed a normative career ladder for the presidency of a higher education institution comprised of five rungs which include: (a) faculty member, (b) unit chair, (c) dean, (d) provost or vice president for academic affairs, and (e) the president. A number of studies have incorporated the normative career ladder delineated by Cohen and March (1974). Salimbene (1982) used the normative career ladder to compare results from a survey and found that there were numerous deviations. In the American Council on Education (ACE) presidential study, Moore (1983) used the normative career ladder to evaluate the career trajectory of presidents, provosts, and deans. She found there was no single career path to the presidency and the most common pathway to the provost was directly from the faculty. Moore, Salimbene, Marlier, and Bragg (1983) evaluated the normative career ladder and determined that it was useful in identifying the entry port for administrators into academia. In addition, it indicated the positions most likely to be found in an administrative career path. Other positions that were held prior to the presidency included dean, department chair, faculty member and various positions in public school systems and outside of education. Likewise, Twombly (1986b) found a number of administrative positions in her study of top-level two-year college administrators, but these positions did not create a structured career path. The normative career ladder was similar to many of the paths taken by these educational administrators, but not a lockstep sequence to be strictly followed. In essence, the normative career ladder provides a very general guideline rather than a career path.

Ross, Green, and Henderson (1993) identified the office that functioned as the CAO was the most frequently held position prior to the presidency in either two-year or four-year institutions in their ACE presidential study. While no single career path emerged, the inclusion of the CAO as the most frequently held position prior to the presidency lends support to the concept of multiple career paths that maintain features similar to the normative career ladder of Cohen and March (1974). Ross and Green (1998) confirmed the frequency of the CAO as the prior position in the 1998 ACE edition of the presidential profile. Moreover, when considering the diversity of titles used for the position, Ross et al. (1993) stressed that the number of presidents who actually handled the job requirement of the CAO prior to their advancement may be greater than actually reported. It appears that in the absence of a single structured career path, multiple career paths with similar features may be the norm.

Given that the position functioning as the CAO is the most frequently held position prior to the presidency in four-year institutions (Lynch, Bowker, & McFerron, 1986; Plotts, 1998; Ross & Green, 1998; Twombly, 1986b) as well as in community colleges (Twombly, 1988; Vaughan, 1986), it is surprising that more work has not been done to profile this position. Vaughan states, "The dean of instruction's position is so interrelated with the community college president's position that it is difficult to discuss the pathway to the deanship without some reference to the presidency, especially when one considers that one out of every two deans of instruction will likely become a president" (1990, p. 41).

A dichotomy of method presents itself when studying the careers of administrators. Whether to profile top-level administrators and then analyze their career moves or study the administrators currently holding various positions in the hierarchy of the institution becomes a question. Carroll (1991) states, "If career studies are to benefit the understanding of specific positions within academic administration, then the studies must be of the people at those positions and not extrapolation from information about individuals at other levels" (p. 670). Given this argument, studying the administrative careers of the CAOs is a logical progression from studying the career paths of presidents.

There have been numerous examinations of the career paths of college and university presidents; however, the number of investigations of the CAO position is more limited. An ERIC database search of articles related to college or university presidents from 1966 through 1999 resulted in over 7250 publications. A similar search using the title of college or university CAO yielded 124 documents. Of these articles, only 11 of them have been published within the last five years. A similar search was conducted to determine the articles related to community college CAOs. From 1966 through 1999 there were 34 articles on the CAOs of community colleges of which only 4 had been published in the last 5 years. Of these 4, one was about competencies in community college administrators and the remaining articles were about issues and topics of concern to CAOs such as general education or reverse transfer, but not about CAOs themselves. This limited coverage into the position of CAOs in the community colleges underscores the need for further research in the area. Given that the position of CAO is the most likely office to precede the presidency, the focus on the career paths of CAOs provides an important piece of information regarding the pathways to this top-level academic administration position.

Previous studies concerning the career paths of academic administrators have generally been limited to sample populations (Salimbene, 1982), administrators within one organization or institution (Plotts, 1998; Stout, 1988; Sagaria & Johnsrud, 1992), or officers within a region (Arman, 1986; Esmond, 1989; Ironside, 1982). Vaughan (1990) completed a study of the academic deans in the community colleges arena. Since the time of Vaughan's study, the community college setting and mission has undergone tremendous change (Hawthorne, 1994). Recent data drawn from a national survey specifically investigating women holding the position of CAO from an internal labor market focus of the public community college setting may prove useful in understanding and facilitating the continued advancement of women into higher administrative levels in academe.

When viewing the career paths and mobility of women CAOs in public community colleges, it becomes apparent that there are many underlying factors and concepts that come into play. Each factor or concept is an integral part of the total picture but has a meaning and function of its own. Background information is provided in this chapter to assist the reader in understanding the career paths and mobility factors faced by women who aspire to the CAO position. Incorporated in this chapter is an introduction to the concepts of organizational careers and career mobility. In addition, the unique factors of organizations known as colleges and universities, as well as factors associated with the mobility of women in higher education, are discussed. The chapter concludes with a statement of the problem addressed in this study, the purpose and research questions formulated for the study, and an outline of the remainder of the dissertation. A glossary of important terms that will be used throughout this document is also included.

The Organizational Career

Careers provide a major source of identity and motivation for working individuals. Wilensky (1960) describes a career as, "a succession of related jobs, arranged in hierarchy of prestige, through which persons move in an ordered (more-or-less predictable) sequence" (p. 523). In a broader look at the term career, Twombly (1986b) defines careers as, "structures of organizations through which the process of recruiting, training, socializing, and allocating the right (as defined by the organization) individuals to the right positions at the right time takes place" (p. 3). Similarly, Glaser (1968) recognized careers as the major method in which organizations develop leadership and generate the cadre of trained individuals needed to ascend to leadership positions. Thus, the term organizational career can be defined as a position or a sequence of positions within an organization.

Azumi and Hage (1972) presented a generic definition of organizations as "structured bodies designed to achieve specific objectives that are part of some larger institutional process" (p. 4). These researchers viewed the larger institutional process of education as one that included structured bodies known as elementary and secondary schools, colleges, and universities. In the United States, the common belief that individuals should be allowed the opportunity to rise to their full potential supported the development of higher education as we know it today (Cohen & Brawer, 1996). In general, Cohen and Brawer described how the view of higher education as a path to upward mobility created the expectation those contributions would be returned to the supporting communities. Increasingly, higher education mirrored the common belief that "people cannot be legitimately educated, employed, or religiously observant, ill, or healthy unless some institution sanctions that aspect of their being" (Cohen & Brawer, 1996, p.1). These researchers noted that more and more, society expects educational institutions to answer complex cultural problems such as drug use, alcoholism, and career education. Community colleges meet many of these objectives such as providing equal opportunity education to all students and functioning as an open access institution facilitating the continued education of all interested individuals. In addition, Cohen and Brawer portray the public community college as and educational institution that addresses the continuous concerns of developmental education, life long learning, and vocational training.

When colleges and universities are viewed as an organization, a position or sequence of positions within the structure of the institution constitutes an educational career. A career in an organization known as a college or university usually begins with a teaching position. Twombly (1988) provides that this teaching experience is highly valued in the community college given that the majority of candidates selected to fill the position of CAO have had at least some period of time in the classroom. An individual might remain in a teaching position throughout his or her career, or they might move to an administrative position. Moreover, the administrative position might involve tasks in disparate higher education areas known as academic affairs, business affairs, student affairs, and institutional advancement. Each of these areas has different responsibilities; however, all of the positions are related to the organization known as a college or university.

Organizational Career Mobility

Movement from position to position is the focus of career mobility (Thompson, Avery, & Carlson, 1968). Martin and Strauss (1956) explain, "over time, the paths of movement of personnel through the system of positions making up the company's structure tend to become more or less stabilized" (p.101). Vardi (1980) goes one step further and outlines, "Organizational career mobility (OCM) is viewed conceptually as all job movements experienced by employees and the related attitudes and behaviors" (p. 341).

Career mobility is influenced by a variety of factors including institutional type and institutional prestige. In his study of presidential mobility, Birnbaum (1970) discovered that very few university presidents crossed institutional types including moving from a two-year institution to a four-year institution. He found higher education institutions attempted to select candidates from institutions with a similar student admission policy, type of control, and mission while the institutional size did not have a strong influence in mobility. This lack of mobility across institution-type boundaries was confirmed by the work of Moore and Twombly (1985) as well as Ross and Green (1990). Esmond (1989) studied the mobility of administrators in two-year institutions and found similar result in that the institutions tended to select candidates from inside the two-year arena.

Institutional prestige plays an important role in career mobility in higher education. Caplow and McGee (1958) posed an institutional prestige system including the Major League, Minor League, Bush League, and Academic Siberia components. In this model, they purport that most faculty and administrators are trained in the research universities which are designated the Major League and are then hired by the comprehensive schools referred to as the Minor League or the liberal arts colleges identified as the Bush League.

In this model, the two-year colleges are considered to be on the edge of academia and are designated Academic Siberia. The lack of prestige associated with the community college (Academic Siberia) seriously impacts career mobility and limits movement from two-year institutions to four-year institutions.

Although career mobility implies upward movement through a hierarchy of positions, movement may also be lateral or even downward (Spilerman, 1977; Vardi, 1980). Birnbaum (1970) provides an example of moving down to move up, pointing to examples in higher education where an individual moved from a higher level position at a less prestigious institution to a lower level position at a more prestigious institution. Choice and personal ability may also play a factor in career mobility. Brown (1967) determined that personal choice might result in an individual moving in this downward direction in prestige and position in order to choose an institution or position that best matches his or abilities and energy level.

Wilensky (1960) identified five structural attributes of organizations that enhance career mobility: (1) organizations with tall hierarchies; (2) organizations with a high ratio of managers to those persons managed; (3) organizations providing indispensable services that are in continuous demand; (4) organizations with prescribed training programs; and (5) organizations with multiple units which are geographically scattered. Four of these structural attributes are found in organizations known as community colleges. Specifically, the community colleges have been described as hierarchical in structure, with positions arranged in the shape of a pyramid from a bottom level of students through the top level of the president (Richardson, 1975). Community colleges provide an indispensable service that is in continuous demand as the United States has relied on them to promote access and diversity, to provide job training and retraining and as implied by the term community, to meet the educational needs of local communities (Cohen & Brawer, 1996). This demand is due in part to the regional nature of the community college as well as the multiple purposes and functions that these institutions serve (Cohen & Brawer). The community college also has a prescribed training program for administrators if we consider the holding of a faculty teaching position prior to movement to administration a requirement. The fourth and final attribute is multiple units that are geographically scattered. There is a community college serving students in every state with the majority of the institutions within 25 miles of their commuting market (Cohen & Brawer).

Given that mobility has such influence on careers, there is merit in determining the patterns it follows. Turner (1960) identified two models of mobility; contest mobility and sponsored mobility. Contest mobility allows individuals complete freedom to compete for a position. Although there are some rules or guidelines that govern the contest, the players are not restricted in the strategies they may employ and the contest is "won" based on the efforts of the contestants. In sponsored mobility, individuals are identified or selected for their ultimate job very early in their careers by an already established elite group or individual; and the persons sponsored do not depart from these selected careers. Selection is based on assumed merit and one cannot gain selection through any amount of energy or effort.

Turner (1960) also used credentials to differentiate contest and sponsored mobility systems. In contest mobility systems, credentials, such as a diploma or license, are highly visible and displayed for the general public. In sponsored mobility systems, traits, such as those used by the former Soviet Union to select athletes for training programs, rather than credentials are used to identify individuals for future athletic careers.

The manner through which career mobility in an educational organization is realized can best be described as contest mobility. Individuals are not selected to become faculty members; rather, they obtain appointments through a search process that gives value to credentials, skills, and abilities (Finlay, 1986; Ironsides, 1982; Moore, 1983). In addition, the mobility of individuals to move between institutions (Birnbaum, 1970; Moore, Salimbene, Marlier, & Bragg, 1983; Ross, Green & Henderson, 1993; Ross & Green, 1998) and the lack of a set career path to top-level administrative positions (Ironside, 1982; Moore, 1983; Moore, Salimbene, Marlier, & Bragg, 1983; Ross & Green, 1998) provides addition examples of contest mobility. Finally, the highest administration position serves at the pleasure of a governing board that is usually composed of individually successful business people rather than members of the educational elite (Benezet, 1962; Birnbaum, 1970).

At first glance it might appear that sponsored mobility occurs at least occasionally. Attention has been drawn to this phenomenon through the call for increased mentoring activities for potential administrative candidates (Ironside, 1982; Moore, 1982; Eggins, 1997). It has also been found that a number of administrators have frequently invested their entire professional career in two-year institutions and may have completed their careers in only one institution (Birnbaum, 1970; Twombly, 1986b; Ross & Green, 1998). Although a mentor or sponsor might recommend or recruit a candidate for an administrative position, the individual still must choose whether or not to compete for a position. As with a faculty position, anyone who meets the minimum qualifications for an administrative position is free to compete for the position. In describing the career paths of administrators in four-year institutions, Katner (1979) suggests these sequences of jobs and experiences should be viewed as "tracks." This concept of career tracks also provokes the image of a more limited mobility once that individual is committed to a track. Most certainly, the community college can be viewed as one higher education track, a track in which an individual can spend an entire career.

Mobility also incorporates the tendency of an individual to move from a less desirable job to a more desirable job that may be considered career flow. Kanter (1979) linked this flow to experience, increased responsibility and age. Becker and Strauss (1968) recognized there were numerous streams in this flow to the top and that sometimes people gained positions whom where not in any stream. However, Becker and Strauss felt that these streams could be likened to escalators that helped move individuals to the top quickly. Like Kanter, they argued that moving from one escalator to the other is a hard because superiors might block the move or the individual might be viewed as disloyal.

Factors that Make Colleges and Universities Unique Organizations

Birnbaum (1988) has identified numerous factors that distinguish colleges and universities from other types of organizations. First, he offers that institutions established though a state constitutional provision, statute or charter and governance by a lay board are unique to higher education. In addition, Birnbaum explains the nature of individual institutions has a great impact on how it is governed. The values, purpose, tradition, and size of a research university are different from those of a community college that leads to different governing needs.

Governance is another area in academia that is distinctive. Decision making authority is spread out among the administrators, faculty and trustees causing trustees to have much less actual power than the legal status might indicate (Birnbaum, 1988; Ironside, 1982). As each faculty member is expected to function as an expert in their field, Ironside further relates that administration is viewed as more of a support to the faculty rather than the usual organizational structure in which the line supports staff. From this point of view, the organizational structure of colleges and universities is distinctive. Birnbaum (1988) summarizes this balance stating, "This appears to give the de facto authority of the faculty more weight than the de jure authority of the board in those areas that in fact define the institution—what shall be taught, who shall teach, and who shall study" (p. 8). However, Ironsides relates the perceived reversal of the organizational structure is limited, as it does not take into account the leadership, vision, institutional planning, and coordination of diverse programs and services that comprise the activities of academic administrators.

Cohen and Brawer (1996) propose there is no single organizational model that describes higher education in general or community colleges in specific. Bergquist (1992) identified four cultures that represent academic life: collegial, managerial, developmental, and negotiating. While pointing to the junior college, the predecessor of the community college, as one type of higher education that originated the managerial culture, Bergquist stresses that all four cultural types are usually in evidence. Birnbaum (1988) describes four types of higher education organizations: collegial, bureaucratic, political, and anarchical. In his view, the community college is best represented in the bureaucratic typology. Indicating that, at best, models help understand higher education organizations, Richardson (1975) emphasized that community colleges were best represented in the bureaucratic and political models. These authors concur that the lack of a singular model is one aspect that makes higher education unique from other types of organizations.

Women in Higher Education

The role that women have played in higher education has shifted greatly over time. Given that women were first allowed to participate in coeducational higher education in 1837, they have since made significant inroads into the classrooms and into administrative positions (Rudolph, 1990). Trying to quantify what barriers exist for access to upper administration, Graham states, "The most important single observation about women in the academic world is that their numbers decrease dramatically as the importance of the post increases" (1974, p. 238). Sandler also notes, "In the rarefied atmosphere of upper administration, women are almost entirely absent" (1979, p. 12). Moore (1982) continued to call attention to the slow rate of advancement of women to top-level positions in higher education administration with the publication of "Leaders in Transition: Women and Minorities."

The mobility of women administrators holds some interesting factors. Moore and Sagaria (1981) found that 67% of the women administrators in their study had remained in one institution throughout their career. This continuous employment by one institution has been considered to be a liability to the promotion for women administrators. Moore and Sagaria also found that if the administrator was not a promotion internal to the institution, then the candidate was very likely to come from out of state as there was little mobility in state or from outside of higher education.

In addition, Ironside (1982) argues that since the mobility for women is not the same as that for men, the result is talented women perform at higher levels of productivity in lower level positions. She states this over-investing in a given job is the direct result of the inability to move easily to the next position.

The type of positions women administrators hold is also indicative of mobility issues. Tinsley (1985) identified that women in higher education administration were more likely to be assistants or associates than deans, provosts, or presidents. She also outlined that women were more likely to be in positions that were traditionally considered to be female. In their report to the U.S. Department of Labor, Thomas, Porterfiled, Hetcheson, and Pierannunzi (1994) asserted that women candidates for administrative positions were viewed using a group stereotype and not as individuals. This lack of direct assessment of the candidate as an individual contributes to an exclusionary barrier to mobility. In addition, Thomas et al. (1994) identified informal barriers such as unwritten rules or understandings that were found to be more important in career advancement than formal barriers.

There are several critical issues other than mobility that impact women leaders. Bone (1997) suggests time management is a critical issue to all leaders and an increased threat to women as they are more likely to carry an overload due to family responsibilities. Spurling (1997) and Brown (1967) contend this time crunch is made worse by the pressure women are given to accept increased teaching responsibilities over their male peers resulting in reduced research and publications that in turn leads to reduced opportunity for promotion.

A second issue is the status of women leaders. Spurling (1997) asserts that women are usually in low status positions where their role is to provide flexibility to the organization frequently at the cost of their personal career. Astin and Scherrei (1980) found the faculty in their study viewed the women administrators at their institution as having taken on male patterns of communication by looking directly in the eye of the person and speaking in a deep tone of voice. Middlehurst (1997) confirms this observation and suggests that women may undergo a type of socialization process in which they learn to function in a more masculine manner allowing them to retain their positions. If they acted overtly feminine, these women lost their authority. If these women leaders acted more managerial and decisive, both men and women accepted them but they were not considered feminine.

In her study of the career paths of women administrators in higher education institutions, Ironside (1982) found that the term career path more closely fit the experiences of the female administrators in her study than career line. This was because the possibility of changing career directions was always present. In addition, Ironside summarized, "personal energy is constantly required to 'get there,' rather than simply 'buying a ticket' good for the 'ride'" (p. 139). She also identified three common career paths for the women in her study: (a) elementary and secondary school teaching, (b) higher education teaching, and (c) other activities or fields.

Moore and Sagaria (1981) also looked at women administrators in higher education and they found women were more likely to conduct their careers in one institution and were not likely to move to other institutions either inside or outside the state. In contrast, Moore and Sagaria found men were more likely to follow the normative pattern of professional experience including obtaining tenure in a discipline, advancing to the position of chair, advancing to a deanship, and promoting to a provost's position than were their female peers.

Given that the predominance of information garnered on women in higher education has been done in the four-year setting and has not focused on how they follow the sequence of their careers, the comparison of the career paths of women CAOs in the community college setting to the body of knowledge about higher education administrators in general should provide interesting results. In addition, the aspects of entry ports and mobility factors between institutions will help to provide information on how women in two-year institutions navigate their careers around these factors.

Theoretical Framework

In reviewing frameworks from which to study career mobility, a natural division exists in the level of analysis. Specifically, this division of analysis can be described as models that base their focus on the individual level of analysis and models that focus on the organizational-structural level of analysis (Twombly, 1986b). Van Maanen (1977) explained that individual approaches to career mobility examine a "series of separate but related experiences through which a person passes during a lifetime" (p.1). Rosenbaum (1979) found that the organizational approaches to career mobility emphasized the "flow of individuals along sequences of jobs" (p. 220).

The individual level of analysis considers factors based on psychological and sociological concepts. Psychological concepts include vocational choice, aspirations, orientations and anchors, satisfaction, and career decisions (Brown, 1987). Sociological concepts include career patterns, life stages, status passage, individual characteristics, and career behavior (Vardi, 1980).

The organizational level of analysis considers factors based on administrative and economic concepts. Administrative concepts are focused on careers as structures of organizations, often using the common framework of Weber's (1958) model of bureaucratic organization. Economic concepts are focused on utilizing internal labor market theory as a basis for studying organizational careers (Vardi, 1980).

What is obvious, then, is that the two basic components of the career mobility process, individual and organizational factors, have been examined independently. Glaser (1968), Hall (1976), and Milkovich, Anderson, Greenhalgh (1976) identified the need for mobility models that integrate concepts from different disciplines and are based on both the individual and organizational level of analysis. To address this need, Vardi (1980) developed the organizational career mobility model (OCM) model.

Organizational Career Mobility

Vardi (1980) outlined OCM as a hybrid model between organizational and individual components. OCM has four primary facets: (a) the economic model with the focus on the organizational characteristics of the firm, (b) the sociological model in which occupational groups are considered both within and across the organization, (c) the psychological model where careers are paths of personal growth and success, and (d) the administrative model which views career mobility as a reward to the deserving employees (Vardi, 1980, p. 342). In this model, mobility indices such as amounts and rates are used as dependent variables and organizational or individual characteristics are used as predictors. He proposes this integrative model could be used to predict career mobility patterns.

Vardi's OCM model creates an expanded framework from which to view career mobility patterns. The need for this type of OCM model has been proposed by previous researchers (Milkovich, Anderson, & Greenhalgh, 1976; Glaser, 1968). A visual representation of Vardi's OCM Integration Model is presented in Figure 1.1 on page 16. This allows a visual classification of the major concepts in organizational career mobility by their level of analysis (individual or organizational) and nature of phenomenon or aspect (objective or subjective) (Vardi, 1980). For example, the upper left corner represents the individual level of analysis and the perceptual or subjective aspect. This maps the key OCM concepts and represents the psychological model that includes occupational choices, aspirations, and career decisions.

Similarly, the sociological model on the upper right has the emphasis on actual aspects and the individual level of analysis (Vardi, 1980). This model represents career patterns, status, and career behavior of mobile individuals.

The administrative model shown in the lower left corner of Fig. 1-1 represents the organizational level of analysis and subjective aspect (Vardi, 1980). Careers are considered to be rewards for contributions to the organization and for long-term commitment.

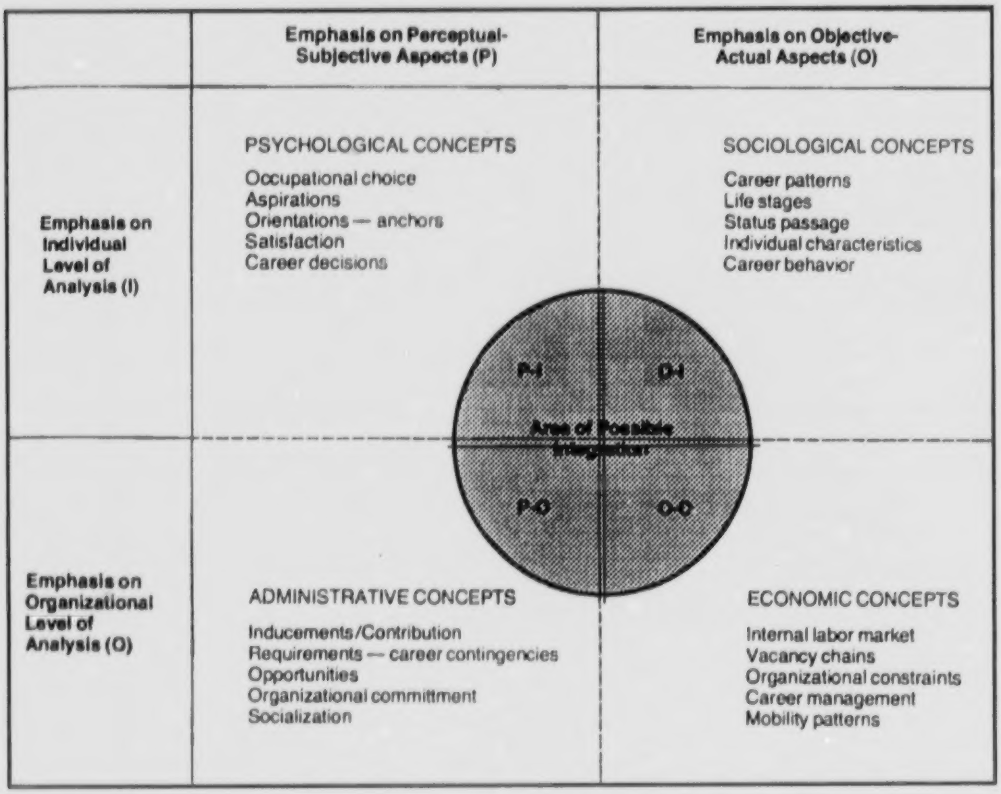

Figure 1.1 Vardi's organizational career mobility interdisciplinary integration. Source: Vardi, Y. (1980). Organizational career mobility: An integrative model. Academy of Management Review, 5, p. 345.

The last concept is the economic model that is shown in the lower right corner of the figure. It represents the organizational emphasis and actual aspect. Career management and mobility patterns are viewed with regard to vacancies within the organization. The central gray area in the figure represents the integration area where the models overlap and are not distinct. The integration of the models allows for a broader understanding of career mobility patterns by blurring the lines between the models.

Internal Labor Market Theory

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Internal labor market theory is based on the concept that workers exchange their labor for wages and status (Kalleberg & Sorensen, 1979). There are three structural features of internal labor markets. First, internal labor markets require all employees to begin in lower-level positions termed entry ports (Doeringer & Piore, 1971). Second, internal labor markets develop job ladders as a result of the need to minimize the costs of training employees (Bills, 1987). Third, movement up the job ladder is associated with a progressive development of knowledge or skill (Althauser & Kalleberg, 1981).

Doeringer and Piore and Althauser and Kalleberg both identified two distinct types of internal labor markets. Specifically, firm internal labor markets are, "established by and confined to a single employer" (Althauser & Kalleberg, 1981, p. 131). Occupational internal labor markets "consist of members of one or several closely related occupations and are not confined to a single firm" (Althauser & Kalleberg, 1981, p. 130).

The theoretical framework for this study is grounded in the concepts of organizational career mobility and theory of internal labor markets. The structure of organizational careers was utilized to identify a normative career path leading to the position of CAO that would then ultimately lead to the position of president (Cohen & March, 1974). Comparison to this normative career path provides a model to base assumptions as to the movement of administrators in higher education institutions and allows comparisons with previous studies to determine if the mobility of women has changed over time when compared to administrators in general. Many notable researchers looking at the career paths of educational administrators have found organizational mobility theory applicable to their work (Ferrari, 1970; Moore, Salimbene, Marlier, & Bragg, 1983; Ross, Green & Henderson, 1993; Socolow, 1978; Twombly, 1986b).

Academic career paths begin with the first position entering the realm of education. Likewise, administrative career paths begin with the entry position in higher administration. McDade (1987) found this first position or entry point in the career paths of top-level administrators to be the position of department chair and a majority of these chairs had promoted from faculty positions. Carroll (1991) argues "the position of department chair [functions] as a transitional stage between faculty and administration in higher education" (p. 670). As these individuals follow their career path and move to higher positions, they take with them their increased knowledge and experienced gained in their previous position. Thus entering at a lower-level position (Doeringer & Piore, 1971), advancing from one position to another (Althauser & Kalleberg, 1981) and having the benefit of prior experience (Bills, 1987) justifies the series of closely related positions found in higher education administration to meet the criteria for an internal labor market. The duties of the CAO, primary academic officer (PAO), chair or division head, and faculty member are common to all institutions of higher education but may be assumed by a variety of position titles. Given these tasks are all addressed by top administrators, higher education institutions function as an internal labor market for these positions.

Problem

The problem addressed by this study is the identification of the factors affecting the career paths and mobility of women CAOs of public community colleges belonging to the American Association of Community Colleges (AACC).

Purpose

The primary purpose of this study is to identify, describe, and discuss the career paths and mobility of women CAOs in community colleges that belong to the AACC. The secondary purposes of this study are:

1. Profile the demographic characteristics of women CAOs in comprehensive community colleges belonging to the AACC.
2. Compare the career paths of men and women CAOs in comprehensive community colleges belonging to the AACC.
3. Identify potential internal and external barriers to mobility for women aspiring to advance to the position of CAO in comprehensive community colleges belonging to the AACC.

Research Questions

To accomplish the purposes of this study, the following research questions were investigated:

1. What is the most common entry port(s) in the career paths of CAOs in public community colleges as self-reported on the modified ACE Presidential Survey (ACE Survey)?
2. Are the entry ports accessed by CAOs in public community colleges different for men than for women as self-reported on the ACE Survey?
3. In comparison to the normative career ladder proposed by Cohen and March (1974), are there common career paths to the CAO position in public community colleges as self-reported on the ACE Survey?
4. Are there differences in the career paths of men and women CAOs in public community colleges as self-reported on the ACE Survey?
5. Are there differences between the personal characteristics (gender, age, race, degrees, marital status) of men and women CAOs in public community colleges as self-reported on the ACE Survey?
6. Are there differences in the professional characteristics (years in current position, first prior position, number of positions, years in positions, mode of movement, institutional type worked in), between men and women CAOs in public community colleges as self-reported on the ACE Survey?

Need for the Study

While analysis of the career paths of the American College Presidents have been completed, there has been only limited attention given to the position of the CAO which is the position most frequently held preceding the presidency. Vaughan (1990) stressed that there is very little published on the community college's dean of instruction. In addition, the number of women and minority CAOs has gradually increased over the past 15 years; however, the number attaining the level of CAO is not in proportion to the number of women and minorities entering higher education faculty positions (Moore, 1982, 1983). This disparity suggests that there are barriers in the career paths of these individuals that affect their mobility in seeking the position of CAO.

Featherman (1971) identified job sequence research as a needed agenda in career mobility studies. Hall (1976) and Super and Hall (1978) have expressed further concern because of the gaps in knowledge about organizational career mobility resulting from the unwavering focus on top-line organizational positions. Moreover, a further call by Vardi (1980) for the investigation of competition, choice, sponsorship, and upward movement within an organization stresses the need for research focused on positions which delineate the career paths of top-line academic administrators.

Studying the career paths of administrators in line to advance to top academic positions provides a unique view of factors that act as barrier to career mobility. Many of these factors act as stumbling blocks to specific populations. Identification of these barriers may help to minimize their effect and facilitate the advancement of all persons interested in attaining top administrative levels in higher education.

Definitions

Career – "a succession of related jobs, arranged in hierarchy of prestige, through which persons move in an ordered (more or less predictable) sequence" (Wilensky, 1960, p. 523).

Career Barriers – "independent constraints on actual career mobility patterns" (Vardi, 1980, p. 351).

Career Ladder – "paths of movement of personnel through the system of positions making up a company's organization structure tend to become more or less stabilized. Patterns of vertical and horizontal movement evolve, to form various types of career lines which terminate at various levels of the management hierarchy" (Martin & Strauss, 1956, p. 103).

Career Mobility- "an organizational phenomenon reflecting a long-term interaction between an individual and his or her work place" (Vardi, 1980, p. 342). Career mobility may be explored from several vantage points:

a. Administrative View- "Careers are viewed as long-term rewards for commitment and effort on behalf of the organization" (Vardi, 1980, p. 345).

b. Economic View- approach looking at, "the conditions under which the internal labor market operates, expands, or contracts, and how the rates of mobility can be best predicted given certain economic constraints (production goals, labor contracts, prices, etc.) (Vardi, 1980, p. 343).

c. Psychological View- approach looking at, "both the antecedents of the career behavior (e.g., personality, ability, aspirations, choices) and the consequences or outcomes of this behavior (e.g., career, satisfaction, mid-career change) over a person's life span" (Vardi, 1980, p. 344).

d. Sociological View- approach looking at, "career patterns and changes experienced by mobile individuals in terms of status, group, or occupational membership" (Vardi, 1980, p. 345).

Career Path – the sequence or system of positions that provides individuals with identified routes for meeting their career needs (Martin and Strauss, 1956).

Chair or Head – The most frequent entry point into academic administration (McDade, 1987) and a transitional state between faculty and administration (Carroll, 1991). This individual serves as a secondary administrator for a specific course of study under the direction of a primary administrator for the institutional program.

Chief Academic Officer (CAO)- "Directs the academic program in the institution. Typically includes academic planning, teaching, research, extensions and coordination of interdepartmental affairs" (Rodenhouse, 1999, p. xxiv).

Chief Business Officer (CBO) – "Directs business and financial affairs including accounting, purchasing, physical plant and property management, personnel services, food services, auxiliary enterprises and related business matters" (Rodenhouse, 1999, p. xxiv).

Chief Student Affairs/Life Officer (CSAO)- "Responsible for the direction of student life programs including counseling and testing, housing, placement, student union, relationships with student organizations and related functions" (Rodenhouse, 1999, p. xxiv).

Dean or Director/Primary Academic Officer – "Serves as the principal administrator for the institutional program indicated" (Rodenhouse, 1999, p. xxiv).

Dean of Instruction (DOI) – "the person responsible for the instructional program at the community college, or, stated another way, the institution's chief academic officer" (Vaughan, 1990, p. *x*).

Entry Port – "the first position held in a two-year college" (Twombly, 1988, p.672).

Faculty – responsible for delivering the academic program. The primary entry point for higher education careers forming the initial position in the normative career path (Cohen & March, 1974).

Firm Internal Labor Market – a labor market that is "confined to a single firm" (Twombly, 1988, p. 670).

First Previous Position – "Positions held immediately prior to the current positions" (Twombly, 1986a, p. 6).

Governance – "the structures and processes through which institutional participants interact with and influence each other and communicate with the larger environment" (Birnbaum, 1988, p. 4).

Higher Administration – any of the top-level positions that direct the overall direction or mission of a given institution.

Individual Level of Analysis – "factors that determine individual mobility and to explain the consequences of mobility for the individual and the organization" (Anderson, Milkovich, & Tsui, 1981, p. 529).

Internal Labor Market Theory – theory that outlines how career paths affect the movement of individuals within a market to meet the needs of the same market. Althauser and Kalleberg (1981) state the organizations have three common features, "(1) a job ladder, with (2) entry only at the bottom, and 3) movement up this ladder, which is associated with a progressive development of knowledge or skill" (p.130).

K-12 Experience – Positions held outside of higher education, in either public or private educational institutions, serving student from kindergarten through the 12th grade.

Occupational Internal Labor Markets – "Members of one or several closely related occupations" (Althauser & Kalleberg, 1981, p. 130).

Other Higher Education Position – Administrative position with in an institution of higher education that does not fit the titles of chief academic officer, vice president, chief student affairs officer, primary academic officer, chair or head, or faculty. These would fall into 'Code 88', "titles that do not fit the above positions" in the Directory of Higher Education position codes (Rodenhouse, 1999, p. xxiv).

Other Positions – These are jobs held outside of education including such areas as business and industry.

Organizational Structural Level of Analysis – view of career mobility as influenced by the external events or forces in the organization's environment (Vardi, 1980).

President – "the chief executive officer of a public community, junior, or technical college" (Vaughan, 1990, p. *x*).

Primary /Associate Academic Officer (PAO) – "Responsible for many of the functions and operations under the direction of the Chief Academic Officer" (Rodenhouse, 1999, p. xxiv).

Public Community College – a two-year academic institution accredited to award the Associate in Arts or the Associate in Science as its highest degree. These educational institutions provide college transfer, general education, occupational education, occupational extension, continuing education, and community service (North Carolina State Department of Community Colleges, 1969). In this study, all institutions were member of the AACC.

Vice President – "Responsible for all or most functions and operations of an institution under the direction of the Chief Executive Officer [President]" (Rodenhouse, 1999, p. xxiv).

Assumptions

The assumptions for this research are as follows:

1. There is a discrepancy in the number of women attaining the level of CAO in comprehensive community colleges.
2. Multiple career paths exist for the CAO in public community colleges.
3. The career mobility of women CAOs is more limited than for men CAOs.

Delimitations

The following were the delimitations for this investigation:

1. This study includes the women CAOs of only the comprehensive community colleges belonging to the AACC.
2. Not all institutions have the position that functions as the CAO identified by that title, so the position most closely associated with the respective job functions of CAO was solicited.
3. Only data received before the summer of 1999 was analyzed.

Limitations

The following were the limitations for this investigation:

1. In following a modification of the survey format used for the ACE Survey, only limited demographic information and prior work history were solicited.
2. The method of data collection utilized in this study was a mail survey. Accuracy of the responses was subjected to willingness of the individual to participate in the study, haste in completing the form, recall error, and willingness to divulge complete answers.
3. The findings of this investigation should not be generalized to other types of higher education institutions.

Chapter Summary

CAOs for community colleges follow multiple career paths. These paths appear to have boundaries that inhibit mobility when moving outside of the institution or outside of the state. Women are attaining this level of administration in increasing numbers; however the percentages of their participation do not reflect the numbers of these individuals entering the higher education system. This chapter introduced the research designed to address this area of concern. Chapter II is a review of the pertinent literature that encompasses: (a) office of the CAO (b) profile of the CAO (c) profile of women administrators (d) previous research in higher education (e) career path of CAOs (f) organizational career mobility and (g) internal labor market theory. Chapter III addresses the methodology utilized in the study while Chapter IV presents the analysis of the data. Chapter V presents the conclusions, inferences, and recommendations for further research or action.

CHAPTER II
LITERATURE REVIEW

Career Paths and Mobility Factors

The career path for faculty in colleges and universities is fairly structured with defined steps on a career ladder, many of which have specific time lengths. The initial faculty appointment, most often as an assistant professor, includes a prescribed number of years termed the "probationary period." Successful completion of the probationary period corresponds to the awarding of tenure and promotion to the rank of associate professor. In order to climb to the "top" of the ladder, a prescribed period of service must be completed in order to achieve promotion to professor. In contrast, the careers of the administrators in higher education are much more diverse. In examining administrative careers in two-year colleges, Twombly (1986b) did not find a prescribed sequence that she could identify as a job ladder. Instead, she described that administrators changed positions rather than received a promotion.

Unique organizational aspects in higher education further compound the lack of structure found in administrative careers in higher education. In industrial organizations, career mobility involves moving to a series of positions leading to greater responsibility and higher esteem. Birnbaum (1970) indicates that, in higher education, administrators generally move to institutions with the same level of prestige or may take a higher position that is at an institution of lower status. Thus, career mobility might be accomplished through an exchange of prestige for greater responsibility. In addition, Birnbaum found that the presidential selection process restricted vertical intrainstitutional mobility. In other words, large proportions of new presidents come from other institutions rather than from internal promotions.

As outline in Chapter I, the vast majority of career studies in higher education have focused on the presidency. The impact of the selection process in favor of external candidates for the position points to the importance of examining other positions in the administrative hierarchy. Noting this, Carol (1991) argues, "If career studies are to benefit the understanding of specific positions within academic administration, then the studies must be of the people at those positions and not extrapolation from information about individuals at other levels" (p. 670). Identification of career paths and barriers to mobility may prove useful to individuals who aspire to administrative positions in higher education.

While there has not been exhaustive research into the careers paths and mobility barriers for CAOs, several meaningful studies have provided a background for further investigation in the area. Drawing on these studies and from work in other areas tangential to this investigation, a mosaic begins to take shape providing a view of women CAO in public community colleges that incorporates the many factors that have determined their career paths and mobility. A review of some of the previous studies that have a bearing on this investigation is provided in this chapter to aid the reader in understanding the factors influencing the career paths and mobility of women CAOs. Incorporated in this chapter is an introduction to the office of the CAO and a profile of the individuals who have held this office previously. The unique characteristics of women administrator in higher education are also explored. A review of prior scholarship pertaining to community colleges and higher education administrators, career mobility, and the concept of internal labor markets is also provided. The chapter concludes with a summary of the status of research in this area and the need for continued scholarship into the mobility and careers of women CAOs.

Office of the CAO

The holder of this office is recognized as the highest-ranking academic administrator for the institution. Esmond (1989) elaborates by defining the position as, "the senior administrative officer responsible for the direction of the academic program of the institution. He/she usually reports directly to the president and, depending on the size of the college and its structure, may be called a variety of titles" (p. 10). Weingartner (1996) describes the CAO as the college's or university's academic spokesperson. He also contends that the CAO provides academic leadership to the entire institution and is usually the only one to do so.

The position of the CAO is surrounded with diversity. The individuals who perform these tasks are identified by a plethora of titles and responsibilities. A partial but not exhaustive list of synonyms is provided by Gould (1964) which include: Dean, Dean of the Undergraduate School, Dean of Instruction, Dean of the Faculty, and Dean of the University and Vice-president, Vice-president, Vice-president and Chief Academic Officer, Vice-president for Academic Affairs, Vice-president and Provost, and Provost. Miller (1974) added to this list the title of Academic Dean and Vice-president of Academic affairs. Vaughan (1990) defines the Dean of Instruction as the parallel position to CAO for public community colleges. The diversity of titles reflects the complex role inherent in the position of CAO.

The role of the community college CAO seems to never be identical from one institution to the next. Hawkes (1930) provides a historic viewpoint of the CAO that remains appropriate today stating there is no standard description for the diverse activities of this office. Vaughn (1990) states that no matter what title is utilized or what additional activities may be included, the CAO is responsible for the institution's academic programs and works directly with the faculty.

The wide diversity of specific responsibilities has led to some concurrence in the most common leadership and managerial functions of the office. Weingartner (1996) defines the staff resource has two primary functions. The first is the responsibility for setting and implementing the goals and standards for the institution. To this end, the CAO articulates the goals and then is responsible for creating and implementing the policies and standards to accomplish them. The second function is the allocation of resources for support operations and for academic instruction. These resources encompass money, space, services, and facilities.

Similarly, Vaughan (1990) defines the role of the dean of instruction at the community college as the position that performs most of the CAO duties and many of those assigned to provost or academic vice-presidents at major universities.
He states:

> Deans of instruction deal daily with college-wide issues; pass professional judgment on all teaching faculty; report to and advise the college president; are responsible for the college's programs of study and schedule of classes; help with long-range planning; work with the college's public relations program; plan, monitor, and spend a budget; deal with external agencies, and, in general, have their fingers on the pulse beat of the entire college in a way that is equaled only by the college president. (pp.10-11)

The CAO accomplishes his or her goals using a variety of strengths and abilities. Mech (1997) explains that the CAO has many responsibilities; however, he or she actually has limited formal power. Mech suggests the CAO may be most effective by using their interpersonal skills to influence or facilitate decisions made by the president or board as well as using these same skills to build consensus among the faculty.

Mangieri and Arnn (1991) state qualifications the CAO needs to be successful, "three qualifications will be particularly important to those being selected for a CAO position: (1) evidence of successful leadership in administration and organization; (2) ability to work with academic groups and other constituencies; (3) demonstrated ability in written and oral communication" (p. 17). It becomes apparent that strong leadership, the ability to communicate, effective organizational abilities and good interpersonal skills are essential to the holders of this office.

Previous Research in Higher Education

Higher education has provided a rich forum from which many research approaches may be exercised. The constant efforts by educators to improve both student ability and outcome has lead to research interests covering a broad area of investigation. For the purposes of this study, this review of higher education research shall be limited to those studies that show a relationship to the career paths and mobility factors of administrators. We shall begin this overview by initially concentrating on the community college forum and then progressing toward higher education in general.

George Boggs (1988) completed a study of the career paths of community college presidents using the American Association of Community and Junior Colleges' data. Boggs found the largest percentage of presidents (26%) moved from the position of dean prior to the presidency. An additional 24% were vice-presidents while 16% were presidents transferring from another institution. Boggs determined that the 81% of the presidents had an earned doctorate from an accredited institution; however, the majority of them earned these degrees after beginning their career as a faculty member. These presidents had prior administrative experience, were capable of managing a budget, were willing to change institutions as well as geographic areas, were effective in oral and written communication, provided service to their community and could handle collective bargaining. Boggs concludes that since 26% of the community college presidents were in a deanship prior to their current position and 24% were vice presidents, having experience as a dean or vice president enhances a candidate's position for moving into the presidency.

Continuing with the focus on the community college, Elizabeth Hawthorne (1994) completed a profile of the CAOs in two-year colleges. This national survey of community, junior and technical institutions determined that the profile of the CAO was a

50-year-old Caucasian male with an Ed.D. and this individual had teaching experience in a traditional transfer field of study such as the humanities, social sciences or natural sciences. This typical CAO had held his position for about 6 years and had presented a paper or published scholarly work in the last five years.

Hawthorne (1994) also found there was a greater percentage of younger women employed in two-year institutions than older women. In addition, ethnic diversity was very limited with 88% of the CAOs being Caucasian. The majority of the CAOs (60%) had degrees in education showing an increase in the number of Ed.D. holders gravitating to the position of CAO in two-year institutions. Additionally, CAOs had more years of administrative service in community colleges (13 years) as compared to four-year institutions (9 years) or K-12 (7 years). Similarly, teaching experience in the community college averaged 8.8 years as compared to 6 year in four-year institutions and 6 years in the K-12 setting. Finally, the modal number of presentations and papers for the CAOs was three. This represents 68% reporting they participated in making paper presentations as part of their job responsibilities. It also reflects a greater percentage of women (74%) than men (66%) contributing to this area of endeavor.

In another set of community college studies, Vaughan (1986, 1990) provides a comprehensive look at community college administrators. In his first study, Vaughan (1986) characterized the community college dean of instruction. He followed this work with a continued look at the community college and the career paths and selection of their presidents. These profiles include mobility, membership in professional organizations, family background, marital status, gender, academic preparation, and parent's education. Vaughan's look at the career pathway to the position of dean of instruction provides a glimpse of the selection of future leadership within the community college itself. His findings included a comprehensive profile of the dean of instruction that is very similar to the community college president. Vaughan profiles the dean as holding a doctorate, belonging to professional associations, and likely to live in the state he or she graduated from high school. In the survey, the deans indicated that 49% of them conducted scholarly research in the previous 5 years while 38% reported they had published within that period. In contrast, the president reported 39% conducting research, while 36% stated they had published within that timeframe.

Vaughan (1990) continues his investigation of these administrators through profiling whom he refers to as the "blue color presidents." In this second investigation, Vaughan determined that the community college presidents were more highly educated than their parents as 77% of the fathers had a high school diploma or less. Occupationally, the highest percent for fathers was in administration and management with 18%, while 60% of the mothers were homemakers. He states the community college in general tends to be more provincial. Vaughan then states the most popular organization these career administrators belonged to was Phi Delta Kappa. These two works when taken together provide a comprehensive snapshot of community college administrators.

Staying within the two-year college purview, the next study for review is Twombly's (1987) investigation into the importance of career entry positions to the career paths of two-year college presidents. A sample of 155 first-time presidents in two-year institutions across the nation was surveyed. She found the average number of prior positions was 3.4. The mean age when they entered higher education was 32.6 years. Over 54% of the presidents entered their professional career at an administrative level while 46% began as faculty members. Twombly determined the number of positions was the factor that determined how long a person would take to attain the presidency, thus, if the entrance port for the two-year presidents was as an administrator rather than as a faculty member, the years to obtain the presidency would be less. Therefore, the entry position does make a difference in the career outcomes of individuals more because of the age of the individual and the number of positions they ultimately hold rather than by which series of positions they attain. Additionally, it may be that remaining within a single institution may provide the most expeditious movement through the ranks to the presidency.

In another study, Twombly (1986a) used the vita portion of a national survey to investigate the labor market boundaries for administrators in two-year colleges. In this study, she determined that the college administrative labor market is comparatively closed to individuals from four-year institutions and external to education for the positions of CAO, chief student affairs officer (CSAO), and president. Contrastingly, she found that the position of chief financial officer (CFO) was more open to both four-year applicants as well as to external candidates. One of the implications is the changing relationship with public schools. Historically, the community college has maintained a close relationship with the public schools by hiring administrators from their ranks. However, as the community college has become more autonomous, the number of individuals moving from the public schools into the community college has decreased. Twombly cites that two-year institutions give hiring preference to individuals within the community college system with almost 90% of the administrators coming with some form of community college experience.

Twombly (1988) also investigated the presence or absence of labor markets in two years institutions. In this investigation, Twombly determined whether two-year college administration is part of occupational internal labor markets by virtue of having fixed entry ports and career lines. The data for this study came from the vita portion of a national survey requesting 10 previous professional positions. The positions were then identified to career lines or sequences of positions. Twombly found presidents basically came from two sources, other presidencies and from top executive positions like CAO. The presidents were least likely to have been an administrative dean or director. Previous administrative experience was important to the career path of the presidency as very few faculty members moved to that position. Only 16% of the presidents came from outside of education. Faculty positions were not the most important position in the career path, but provided an entrance port for a large number of administrators. The first previous position of CAO was the most likely position to move directly into the presidency and there was little horizontal movement along line officer positions. Twombly concludes that there is a presence of a labor market operating in the community college; however, it is a new type of labor market that hires from within. Additionally, she states the majority of the moves between positions are within the two-year boundaries, but top-level administrators are still able to move in from outside of higher education.

Looking at mobility, Twombly found moves were easier to make earlier in the academic career. In addition, the mobility of the top-level administrators is primarily within the two-year college administrative labor market. She also states that the low prestige value placed on two-year institutions limits the mobility of four-year administrators from moving into the two-year market.

Moore (1986) conducted a study examining the employment background, aspirations, goals, and career paths of two-year college administrators. In this nationwide survey, she attempted to create a comprehensive background of two-year administrators. She found the majority of the respondents had held their position 5 years or less and 55.5% had been the first person to hold a newly initiated position. The administrators were Caucasian, married and had backgrounds in which their mothers were more highly educated than their fathers. Over 46% had earned a doctoral degree and more than half had participated in a mentoring relationship. The positions that women held the most were librarian, director of financial aid and academic dean. About 66% of the administrators were at comprehensive colleges, 25% at technical institutions, and less than 10% at academic transfer colleges. The majority of these administrators did not seek their positions, and they reported personal contacts were the best way to find out about potential positions. The shifting mission of junior and community colleges was noted and a discussion on the impact of the labor market and future of the institutions was provided.

A hybrid study between two-year institutions and four-year institutions was initiated to investigate the mobility of administrators moving from one institutional type to the other (Moore & Twombly, 1985). Moore and Twombly looked at the biographical characteristics and employment patterns of higher-level administrators in educational institutions who moved from one type of institution to another and coined the term "crossover." In this national survey effort, the investigators utilized the Higher Education General Information Survey (HEGIS) to identify potential crossover administrators to survey. Moore and Twombly found 6% of the faculty in four-year institutions were crossovers. Of these crossovers, 53% were employed in liberal arts colleges while 10% were in doctoral-granting institutions. The positions that were most frequently held by the two-year crossover personnel were student affairs officer, continuing education, registrar, CAO, and head librarian.

A profile of the typical crossover faculty would be a Caucasian male with the rank of associate or full professor and 35 to 50 years old (Moore & Twombly, 1985). The typical crossover faculty had held the rank of associate or full professor, is better educated than his peers, holds three degrees, and is between 35 and 50. In general, the crossovers indicated they made the move to improve their status and prestige with a secondary consideration of retirement benefits, geographic location, institutional facilities, or the readiness for a change.

Shifting to a focus on national surveys of four-year institutions, Karen Moore has provided a wealth of information regarding the careers of top-line administrators and women and minorities in the "Leadership in Transition" national surveys (Moore, 1982, 1983). In Moore (1983) the career paths, characteristics, and personnel holding the positions of president, provost or dean are investigated. This study provides demographic information about the top-line administrators of four-year institutions across the nation including career issues, educational background, personal information and professional credentials.

Moore (1983) determined that the presidents and provost are between 45 and 55 years old, with 90% of the provosts and presidents holding doctorates. About 64% of the presidents and 87.7% of the provosts maintained academic rank and the majority had entered higher education with a faculty position. Similarly, 46% moved directly from the faculty to the provost positions while 39.6% moved from a departmental chair position to the provost position. About 13.6% were females and 8.3% were minorities. Over half had participated in a mentoring relationship and the faculty teaching positions was the entry post for the vast majority of these administrators.

The profile for the academic dean was not substantially different. Moore (1983) identified 80% of the deans held rank and tenure, 39.4% came from a faculty position and 27.5% from a path including a department chair and dean position. About 13.6% of the administrators were women, 7.2% were minorities, and 60% had participated in a mentoring relationship. In addition, a faculty teaching position was an entry port for the majority of these individuals.

Moore (1982) completed a second study focused on women and minorities. She found both categories still underrepresented in college and university administration. Women were found to primarily be administrators in Liberal Arts II colleges. Moore found 87.8% of the men were married while only 43.7% of the women. She also determined that the positions most frequently held by women in higher education were registrar, librarian and director of financial aid. Contrastingly, positions held by the greatest number of men were president, chief business officer and registrar. Career mobility was not significantly different for men than women and both were as likely to have experienced a mentoring relationship. Finally, women were more likely to have a degree from the institution they currently served in than men.

A second series of national surveys that has had tremendous impact on the understanding of demographics, career paths and mobility of presidents are the ACE Surveys (Ross & Green, 1986, 1998; Ross, Green, & Henderson, 1993). These three studies have provided a longitudinal view of how the position of the presidency has changed with regards to the demographics of the individuals holding the office, how long they have serve in their positions, and how mobile they are. To identify career path changes, previous and second previous positions are determined. The Carnegie classifications of the institutions they serve are considered in the analysis and the reporting structure as well as the locus of control is identified. In addition, a comprehensive view of the demographics of the presidents is provided including gender, age, ethnicity, marital status, religion, educational background, highest degrees earned, and years of service. Special efforts are made to compare the results with both the previous studies as well to the individuals who were new to the presidency since the last survey. The data is presented so that it may be viewed from an institutional type, gender, or minority focus. As the project continuously updates the database for the next study, it is possible to determine incremental changes in the profiles of the presidents such as the slow but steady increase in the number of women presidents along with the relatively flat rate of change for minority presidents.

Although not as broad in scope, there are additional studies that contribute to the body of knowledge on the career paths of higher education administrators. Plotts (1998) completed a national survey of the 90 presidents of institutions belonging to the Christian Coalition for Colleges and Universities (CCCU). In this study, he profiles the CCCU presidents and compares their career paths with the ACE presidential survey. Plotts found the CCCU presidents were Caucasian males between the ages of 51 and 60. They were all married and there were no women. These presidents were most likely to have been a CAO prior to becoming president but frequently entered the position from outside of higher education. The significant differences he found between the ACE college presidents and the CCCU president were the absence of women in the CCCU and that all of the CCCU presidents were married. In addition, the CCCU presidents were more likely to enter the presidency from outside of their institution or from outside of higher education. He found 80% of the CCCU presidents had not held a position in the institution they currently served prior to the presidency. This study provides a unique look at how the blending of education and church mission results in a presidential profile and career path that differs from the ACE presidential survey.

Birnbaum (1970) conducted a survey of New York State Colleges and Universities focusing on how institutions went about selecting their presidents. He found most college presidents were external to their colleges when they were hired. The institution employed only 29.2% of the respondents to his survey and they were in the position of CAO. Individuals from other academic institutions contributed 44.4% of the presidents while non-collegiate organizations provided 26.3% of the presidents. Birnbaum found the size of the institution sending the president was not significantly correlated to the size of the receiving institution. The correlation between the selectivity of the two institutions was highly significant with 47.3% of the presidents transferring to institutions of the same selectivity while 34.2% went to institutions of lower selectivity and 18.4 % went to high selectivity institutions.

Birnbaum (1970) also provides an overview of how institutions value experience and institutional prestige when choosing administrators. He outlines the influence of institutional prestige noting presidents would only move to institutions of lower prestige if they were assuming higher positions than they were leaving. Birnbaum also identified that community college personnel would generally not be considered for candidacy in a four-year institution. Birnbaum goes further and explains the three modes of socialization as training, screening, and apprenticeship and also noted that there was a high rate of internal promotion for middle management positions. He then cautions that internal candidates may be too well known and that outside candidates are less known so their shortcomings are not brought to the front.

Studies that focus on multiple administrative levels have also provided meaningful information to the literature. Moore, Salimbene, Marlier, and Bragg (1983) completed a survey of the structure of the careers of presidents and deans. This study used Spilerman's career trajectory model as a way to understand the administrative careers of these academicians. They developed a normative career ladder for deans consisting of a faculty entry port, time as a departmental chair, advancement to and assistant or associate position and then attainment of the position of dean. The career histories of the presidents that participated in this study found only 3.2% had followed the normative path of Cohen and March (1974) providing evidence that the normative pathway does not adequately describe the career path of current presidents. It was found that 19.3% of the respondents were missing one position on the normative path while 30.7% were missing two positions, and 32.1% were missing 3 positions. Using the dean career trajectory model, they discovered 6% fit the normative path of four positions. In addition, the majority of the deans came directly from the faculty while 15% had no previous faculty experience. They summarized their findings stating that the department chairmanship and academic deanship are replaceable components on the career path and that more individuals vary from the "norm" rather than conform to the "norm."

Arman (1986) conducted a study of the career preparation, career paths, and demographic characteristics of public, private and community college presidents and

CAOs in Illinois, Michigan, and Ohio. This regional study included both extremes in institutional size and included branch campuses also.

In this work, Arman (1986) found the profile of the college administrator to be a 50-year-old Caucasian male. He found more than half of the administrators had entered higher education with a teaching position in the public and private four-year institutions. However, over 50% of the community college administrators entered higher education without prior faculty experience. Promotion from a position internally to the presidency was not as common as hiring a person from another institution with only a quarter of the presidents following that career path. The previous institution that these individuals came from was generally very similar in size and mission to the institution they moved to. Additionally, the majority of the administrators held a doctorate and the number of four-year administrators with and Ed.D. was higher than expected. More than 30% of the public and private college presidents had degrees earned in education. In addition, almost 60% of the administrators had at least one course in education and in general they found them helpful.

Esmond (1989) completed another regional study investigating the career paths of CAOs in Michigan community colleges to determine if the entry port and paths for these professionals had changed over time using 1974 as the pivotal year. In addition, she proposed seven career-path models with which to compare their careers. Esmond also attempted to identify the factors current and former CAOs and presidents of the Michigan community colleges perceived were important for the career paths and the selection processes of future administrators.

Additionally, Esmond found that prior to 1974, the CAOs and presidents of Michigan community colleges were from a K-12 background. After 1974, the predominant source of CAOs and presidents was from the faculty. She found there was no single career path that was followed by the CAOs either before 1974 or after 1974. She also found that the perceived value of 29 out of her 32 experimental factors such as credentials, personal characteristics and previous work experience in the selection process of administrators had not changed between the two time periods compared. The three factors which

Esmond did find that were not perceived as important to the pre-1974 administrators but were determined to be important to the post-1974 administrators were scholarly publications, sources, and whether the candidate was internal or external to the institution.

In a study of church-related colleges and universities, Stout (1988) conducted a comprehensive survey of 775 CAOs in the United States, Puerto Rico, and Canada. He created a demographic profile of the CAO and investigated areas such as decision-making policy, job satisfaction, and the career path they followed to their current position of CAO. Stout determined the CAOs of the church-related institutions were professionals who were easy to work with and capable of making difficult decisions. They carried a wide variety of titles (25) but were primarily identified as the vice president of academic affairs or the academic dean. The typical CAO was between 45 and 49 years of age, male, and continued to participate in teaching but was not active in scholarly research. The CAO had been in their current position an average of 3.5 years. The vast majority of CAOs in the study had served in a faculty position and almost one third had served as a department chair previously. When asked what next position these administrators would prefer to hold, the largest grouping (24.6%) desired to return to a full time faculty teaching status while 21.6% responding that they aspired to the presidency.

Research on Women Administrators

Information about women in higher administration is predominately focused on the position of college presidents due to the attention this senior level position commands. Given that the position of CAO is recognized as the most frequent position held prior to the presidency in both two-year and four-year institutions (Lynch, Bowker, & McFerron, 1986; Plotts, 1998; Ross & Green, 1998; Twombly, 1986b; Vaughan, 1986), it is appropriate to use the information on the presidency as a comparison for the position of CAO. The number of women holding top-level administrative positions has shown an increase since the initial ACE Presidential Survey. Moore and Green (1998) found the number of women in institutions of higher education is still not proportional to those entering the field of academia (Moore, 1982). In addition, positions for women may be genderized. Frequently, women are concentrated in the positions of CSAO, head librarian or head financial aid officer (Frances & Mensal, 1981; Moore, 1984, 1998; Twombly, 1986b). Twombly found 40% of the CSAOs were women. This reflects positively on initial advancement of women into administrative slots; however, if the CSAO is in a ceiling position as Twombly suggests, then promotion to this position becomes a barrier to the advancement of women into higher levels of administration.

The credentials of women presidents were frequently different than for their male counterparts. Ross and Green (1998) found these women were more likely to (a) have a degree in the humanities and fine arts, (b) have a Ph.D. as their highest earned degree, (c) be single (46.3% for women and 8.2% for men), (d) have previously held the position of CAO, (e) have served 5 years or less in their prior job, (f) have held a full-time faculty position for over 10 years, and (g) currently serve on external non-governmental advisory boards.

The profile of women presidents has changed between the 1986 and 1995 ACE Presidential Surveys (Ross & Green, 1998). Ross and Green found the average years in the position of president have increased for women and more females hold the presidency in two-year college, and master's institutions. Ross and Green determined the current profile of a female president is a white 50-year old married woman who is a tenured faculty member and has held her current position less than five years. She is also most likely employed in a master's (18.8%), baccalaureate (18.6%), or two-year (17.4%) institution. Additionally, this president earns less salary than her male counterparts in an equal position (Frances & Mensal, 1981).

In another study, Stokes (1981) studied the environmental, social, and cultural conditions that impact and predict the administrative style and expectations of women administrators in Florida. She surveyed 245 women administrators in the 9 state universities in Florida. In the study, she gathered information about the social-cultural conditions these individuals worked in, what their administrative style was, if there were professional development needs that should be addressed, and what their expectations in the realm of advancement consisted of.

Stokes found a predominance of the women felt there were several social-cultural conditions they had to work within including the need to work twice as hard to succeed, that women administrators are consulted less on important matters, that women are excluded in collegial relationships, and that they have less access to true power. The environmental conditions Stokes found that negatively impacted the careers of the Florida women administrators included genderization of positions and various levels of negative treatment ranging from slights to sexual harassment. Stokes found that ethnic background and percentage of women employed at the institution significantly predicted the amount of the negative experiences. The areas of professional development that were identified included legal issues, developing positive self-concept, staff motivation, contracts and grants, and the budge process. About one-third of the administrators admitted to intentionally adapting their administrative style to be less direct in making suggestions, avoiding emotions, and aiming for higher levels of performance. The administrators were fairly mobile in their job changes and felt their positions had allowed them increased respect, authority, and personal growth.

In another state study, Ironside (1982) looked at women administrators in North Carolina with a qualitative study investigating the perceptions women administrators held toward factors that influenced their careers and mobility. She surveyed 30 women in various administrative positions in four-year North Carolina institutions regarding the climate they worked in, the skills and abilities they felt were the most valuable to their positions and the existence of subtle limitations they may have experienced in their careers.

Ironside found these women administrators had engaging personalities incorporating a balance of patience, wit, and discipline. Many of these women recognized the importance of these characteristics and made efforts to refine them. Ironside also found having a continuous adult work life positioned these administrators' careers so they were more competitive for positions as they became available. The women administrators were willing to accept increased responsibilities allowing them to shape future opportunities. Generally, there was a male mentor who advised and encouraged them to find special opportunities for advancement. Ironside also found these women did not feel they had experienced insurmountable barriers or discrimination. Rather, they felt most of the undesirable incidents encountered were more slights and oversights that were painful, but not overwhelming. They felt these incidents led more to an unsettled feeling of loneliness and isolation than to boundaries in their advancement. Finally, the women administrators chose to not be activists in furthering the careers of women. They viewed their contribution as being a visible role model recognized as a highly competent administrator.

Major Approaches to Career Mobility

Careers provide a rich area for investigation given their complex nature. Hall (1976) and Schein (1971) both view careers as a progression of occupations resulting in an increase in status, prestige, skill and attitude. Alternatively, Becker and Strauss (1968) outline career mobility and describe how personnel move from positions of low prestige to high prestige. Both of these viewpoints characterize a career as an enhanced movement with the possibility of gaining knowledge and skills to allowing for further advancement.

Glaser (1968) identifies the function of careers:

> In general, organizations obtain work form people by offering them some kind of career within their structures. The operation of organizations, therefore, depends on people's assuming a career orientation toward them. To generate this orientation, organizations distribute rewards, working conditions, and prestige to their members according to career level; thus these benefits are properties of their organizational careers. (p.1)

Organizations and the careers associated with them have been studied from four basic career models: the psychological approach, the social approach, the economic approach and the administrative approach (Vardi, 1980). Vardi explains that these approaches are unique due to the varying levels of analysis, alternative methods of measurement and different paradigms. He also describes how his OCM model in Figure 1.1 may be useful in mapping individuals' careers. This model uses the dichotomy of perceptual-subjective versus objective-actual aspects as well as the individual versus organizational level of analysis to plot careers. First, we will view the organizational level of analysis, which includes the administrative view focusing on the perceptual-subjective aspects. The other focal point in the organizational level of analysis is the economic view, which includes the objective-actual aspects. These will be followed by the individual level of analysis, which highlights the psychological concepts from the perceptual-subjective aspect and the sociological view when focusing on the objective-actual aspects.

Administrative View of Career Mobility

Vardi (1980) described the administrative approach to career mobility as one in which, "Careers are viewed as long-term rewards for commitment and effort on behalf of the organization. The organization established the 'prices' attached to various careers, using explicit or implicit career contingencies" (p. 345).

In his classic work, Weber (1958) proposed a model that has served as the common framework for the study of career mobility in bureaucratic organizations. In this model, the structure of the organization creates a career by controlling the movement of an individual through predesigned positions. Movement is dependent upon both seniority and merit and a promotion results in increases in responsibility, pay, and prestige.

Mobility studies in bureaucratic organizations have often focused on succession of various groups, i.e., Fortune 500 companies (Grusky, 1961; Kriesberg, 1962), a police department (Maniha, 1975), and school superintendents (March & March, 1977). Birnbaum's (1970) examination of presidential succession in colleges and universities follows the succession perspective. These authors contend that succession is important to career mobility as it creates a chain of vacancies rather than a single vacancy.

A second consideration of research using the Weber model is the manner(s) by which the organization controls its members. Under this view, the organization utilizes a reward system in which promotions are considered rewards and demotions or transfers can be used to maintain power over the individual worker (Goldner, 1965; Maniha, 1975). Recent examples of such studies include the development of public laws and the willingness of individual citizens to follow them (Ludemann, 1998) and the influence of the capitalist perspective of organizations on the work ethic of rank-and-file employees (Jones, 1997). Additional examples of this viewpoint include how promotions are used to benefit the organization (Smith, 1999), how commitment, as determined by continuous employment, is rewarded by organizations (Schrimsher, 1998), and the impact of group membership on careers (Lopez, 1996).

Martin and Strauss (1956) were the first to point out that, by offering careers to employees, the organization determines patterns of vertical and horizontal mobility. The previously mentioned presidential study (Birnbaum, 1970) showed the impact of the organizational selection process on vertical mobility. In examining K-12 organizations, March and March (1977) pointed to increase in size as a factor that influenced patterns of mobility.

As outlined by Vardi (1980), this approach places an emphasis on administrative concepts such as inducements, career contingencies, opportunities, socialization, and organizational commitment. As a result, authors have stressed the importance of satisfying superiors and meeting organizational expectations as important factors in career mobility.

Economic View of Career Mobility

According to Vardi (1980), "The main concerns of the economists are the conditions under which the internal labor market operates, expands, or contracts economic constraints (production goals, labor contracts, prices, etc.)" (p. 343). Doeringer and Piore (1971) described internal labor markets as administrative units in which the pricing as well as allocation of labor is determined and controlled by a set of administrative rules. Althauser and Kalleberg (1981) stipulate there are 3 basic features to an internal labor market: (1) entry at a low level position, (2) a job ladder, and (3) progression up the job ladder in response to development of skill or abilities and the attainment of knowledge.

The vast majority of career mobility research incorporating economic concepts has focused on explaining the internal labor market subsystem (Doeringer & Piore, 1971; Gitelman, 1966; Martin & Harkreader, 1993). Althauser and Kalleberg (1981) identified groups of closely related occupations that function as a unit as occupational internal labor markets. Doeringer and Piore introduced the firm internal labor market as a labor market limited to and created by a single entity. A discussion of these two types of internal labor markets follows later in this chapter.

In a strict sense, entrance to an internal labor market begins with a low-level position, termed an entry port. Recent investigations of entry ports include the arts (Karrunen, 1998), and as part of a new stratification system within industry (Kerckhoff, 1995). In terms of higher education, there has been one study of administrative entry ports in two-year colleges (Twombly, 1987).

On the other hand, several studies have focused on the existence of career ladders including the effects of gender on movement up the career ladder in a public utility company (Hersch & Viscusi, 1996) and the interaction of affirmative action and career ladders in major Chicago area businesses (Collins, 1997). There have been educational studies that examine career ladders. These include the normative career path of college and university presidents (Cohen & March, 1974) and internal labor markets in two-year college administration (Twombly, 1988).

Vacancy chain models are another feature of the economic view. In these models mobility is examined from the perspective of opportunity to move rather than actual movement (White, 1983). Stewman (1986) argued that vacancy chains provided the opportunities to focus on the training necessary for the next position rather than on a hierarchical pyramid. Researchers have utilized vacancy chain models to explore the mobility of football coaches (Smith & Abbot, 1983), civil service employees (Stewman, 1975), and the development of organizational passages enhancing career mobility (Stewman, 1986).

As shown in Figure 1.1, the subsystems of the internal labor market include organizational control, mobility patterns, vacancy chains and organizational constraints.

The economic approach views career mobility as a function of economic forces outside of the organization in conjunction with the internal benefits to the organization, with respect given to the supply and demand present (Vardi, 1980).

Sociological View of Career Mobility

Turning our purview toward the individual level of analysis with the perceptual-subjective view, the sociological view of career mobility comes into focus. Vardi (1980) characterized sociological approaches to career mobility as those that "center on career patterns and changes experienced by mobile individuals in terms of status, group or occupational membership" (p. 345). Blau and Duncan (1967) add, "there are 'channels' of mobility –or factors governing access to occupational roles – that complicate the patterns of movement as compared to what can be expected on the simple metaphor of a social elevator going up or down" (p. 117). In the sociological perspective, mobility has been classified as intergenerational and intragenerational. Intergenerational mobility results from a change in status that occurs between generations. Intragenerational mobility results when changes in status occur within a career of life.

The Blau-Duncan (1967) model of status-attainment is considered to be the classic model of intergenerational occupational mobility (Arthur, Hall, & Lawrence, 1989; Kelly, 1973; Krymkowski, Sawinski & Domanski, 1996; Sanders, 1996; Twombly, 1986b). The theoretical basis of the Blau-Duncan model is that family background, measured by the father's educational attainment and occupational status, has a casual influence on the educational attainment of his children. In turn, the educational attainment of the child influences their first job. The first job, along with educational attainment, is the main determinant of the final occupational status.

Research in this area has included many realms of investigation. Higher education studies have included career paths and profiles of top-level administrators in four-year institutions (Moore, 1982, 1983) and the characteristics of community college deans of instruction (Vaughan, 1986, 1990). Another Blau- Duncan study mentioned previously investigated how the educational level of Dutch mothers influenced the labor market participation of their daughters (Sanders, 1996).

In a similar venue, Vardi (1980) recognizes the majority of research on intragenerational mobility is based on the work of Becker and Strauss (1956), who created an image of job mobility in which personnel floated through organizations on career streams that provided increasing prestige and responsibility in position. In essence, these researchers view socialization as a process that influences upward movement in the organizational structure

Organizational and group membership factors also have the capacity to influence career mobility through an organization. Recent studies of factors that have been evaluated in this regard include organizational size (Crank, 1991; Free, 1990; Green, Anderson, & Shivers, 1996; Lang & Johnson, 1994), gender (Forster, 1999; Maume, 1999; Murrell, Friez, & Olson, 1996), age (Cramer, 1993; Kerckhoff, 1995; Krecker, 1994; Nesbitt, 1995), and social status (Gooderham, 1991; Lin & Vogt, 1996). Many other areas involving participation in the "right" types of membership would also be considered as research in this arena.

Mapping these concepts on the Vardi (1980) model (Fig.1.1), the sociological concepts of life stages, career patterns, individual characteristics, and career behaviors come to the fore. These factors point out that an individual both influences and is influenced by the organization. Combined with the socialization process, these influences impact career mobility.

Psychological View of Career Mobility

Vardi (1980) described the psychological approach as one that, "would look at both the antecedents of the career behavior (e.g., personality, ability, aspirations, choices) and the consequences or outcomes of this behavior (e.g., career, satisfaction, mid-career change) over a person's life span" (p. 344). Twombly (1986a) adds that the psychological approach is best explained as how individuals choose their occupations and careers.

Prior to the mid-1950's, the psychological approach was considered to have three theoretical approaches. These were trait-and-factor, social-systems theory, and personality theory (Super & Bachrach, 1957). The trait-and-factor theory was classically used for intelligence, interest, aptitude, personality and achievement tests. Super and Bachrach expound that this person-centered view places an emphasis on personal traits and that once these are identified for a specific field, much more can be known about motivation and needs. One justification of the trait-and-factor model is the assumption that people would make better career choices if they understood themselves, their natural environment, and their work environment better.

Super and Bachrach (1957) explain that in the social-systems theory, the interaction of the individual with the social systems that impacts him or her are the important parts of the model. Developmental tasks confront a person who then has to make decisions and these decisions differ with age, time, and other social systems. An example given by Super and Bachrach is a child raised in a certain socioeconomic class will have the educational background and family financial support for that social system. These systems can then persist and impinge on later years. Townsend (1998) followed this approach in her study of looking at career satisfaction in community colleges.

The personality theory as described by Super & Bachrach (1957) includes the composite effects of heredity, experience, environment, culture, and interpersonal relationships. There are numerous divisions of the personality theory that offer frameworks for understanding vocational choice; however, many of these are less useful in light of the integrated approach developed by Super & Bachrach. This integrated approach that is made up of a synthesis of the other models is called vocational development theory.

According to Brown (1967), the1950s was the time when the previous approaches were integrated into two general theories of career mobility that have been attributed to Super and Bachrach (1957) and Holland (1966). Super and Bachrach's general theory of vocational choice lists a series of 12 propositions. In an abbreviated version, these propositions stress that: (1) vocational choice is a process, (2) the process fits a discernible pattern, (3) vocational choice requires a merging of personal and social factors, (4) self-concepts influence occupational understanding in teens, (5) reality is of greater import with age, (6) parental influence affects career choice, (7) intelligence, status, and skill determine the rate and direction of mobility, (8) the person enters an occupational field they have some interest in, (9) there is enough diversity in people that you will see it in occupations also, (10) and (11) work and life satisfaction are based on how a self-concept was viewed, and (12) work activity may be the individuals adjustment or defense mechanism.

These 12 propositions were then developed into five vocational life stages (Super & Bachrach, 1957). The five stages are: (1) growth (birth-14 years), (2) exploration (15-24 years), (3) establishment (25-44 years) 4) maintenance stage (45-64 years), and decline state (66-70 years). These stages correspond with the life stage theory of clinical psychology and the literature on adult development (Levinson, 1984, 1986).

The second theory of vocational choice (Holland, 1966) categorized people into one of six different personality types, with six corresponding work environments. These categories include: (1) realistic, (2) intellectual, (3) social, (4) conventional, (5) enterprising, and (6) artistic. It was Holland's contention that people search for environments that match their personality types; therefore, career behavior can be explained by the interaction of personality type and work environment.

Time has proven the lasting value of Holland's work. Studies that have utilized Holland's theory of vocational choice are varied and prolific. Recent investigations that have specifically denoted using this model include choosing a major in college (Reardon & Wright, 1999), using vocational preference inventories (Sheffey, Bingham, & Walsh, 1986), and the role of gender in choice of a college major (Gianakos, & Subich, 1988). The most obvious support of Holland's theory is found in the Strong Vocational Interest Inventory (Campbell & Holland, 1972). Recent research using this inventory includes such work as determining artistic interests (Prince, 1998) and vocational outcomes for college freshmen (Sackett & Hansen, 1995).

As shown on the Vardi (1980) model (Fig.1.1), the psychological approach incorporates the concepts of aspirations, satisfaction, career decisions, occupational choice and orientation anchors. In this view, the perspective of the individual, i.e., personality, attitude and choice, along with the subjective nature of opinions and satisfaction are used to evaluate career mobility.

Internal Labor Market

Following the economic view to career mobility, Kalleberg and Sorensen define labor markets as, "arenas in which workers exchange their labor power in return for wages, status, and other job rewards" (1979, p. 351). Reynolds (1951) identifies the two most important issues in labor market research as determining the factors that bring workers and jobs together and the conditions that facilitate their movement among organizations.

Dunlop outlines internal labor markets as, "the complex of rules which determine the movement of workers among job classifications within administrative units, such as enterprises, companies, or hiring halls" (1966, p. 32). He elaborates further that allocating, pricing, and training decisions directly controlled by market forces distinguish external labor markets. Althauser and Kalleberg (1981) provide several features of the internal labor market including entry positions, career ladders, job mobility along career lines, and advancement by experience and knowledge. "The use of the term 'labor market' implies that there is enough uniformity of behavior among certain workers and among certain employers to warrant generalizations about the actions of each" (Kerr, 1954, p. 92). Twombly (1986b) also defines internal labor markets:

> Internal labor markets are structures governed by formal and informal "rules". Careers and career mobility are structured in part because there are limited positions through which employees enter the labor market. By limiting entry, internal labor markets offer employees protection from outside competition; for in the strictest case, workers from other markets must begin at designated entry points, which are usually low-level positions in the organizational hierarchy. (p. 3)

Doeringer and Piore (1971) were the first to point out that a dual labor market exists. The first labor market (termed the internal market) is identified with the controlled entry into the organization and advancement within the organization occurs in an orderly progression. The second labor market (termed the second-sector market) is comprised of low paying jobs. This second-sector market has many entry ports and short mobility clusters (Kalleberg & Sorensen, 1979). Doeringer and Piore outline that the standard criterion for entering a position determines the associated mobility. If the criteria are stringent, then greater education, experience, and performance are required limiting the mobility path and creating a more articulated sequence. If there is an organizational crisis and greater mobility is needed, then the criteria are lowered and employees are more likely to enter from many ports resulting in horizontal and diverse mobility patterns.

Doeringer and Piore stress the importance of the job ladder where, "work on one job develops the skills required for the more complex tasks on the job above it, and those at one point in the line constitute the natural source of supply for the next job along the line" (1971, p. 360). Spilerman (1977) delineated the concept of career line or job trajectory as a series of work experiences common to a sector of the labor force. Twombly (1986b) reiterates this concept:

> In internal labor markets chains of jobs are formed that minimize costs of adjustment to new positions for both employer and employee. In this way, individuals are introduced to the skills of higher positions before actually moving to them. Consequently, both organizations and employees benefit from internal labor markets. (p. 3)

Althauser and Kalleberg (1981) outline career analysis as identifying career entry ports, determining the number of associated positions, and determining the mobility associated with positions. Thus, internal labor market studies lend themselves to research in the areas of career mobility (Gaertner, 1980; Spilerman, 1977; Twombly, 1986b). The lateral movement within the community college environment by upper level administrators and movement to secure repetitive positions (multiple presidencies) are characteristics of the community college (Twombly, 1986b) and indicative of an internal labor market. Twombly, (1986a) states two-year schools have become their own best source for their top administrators and give preference to these internal candidates resulting in a closed labor market. This characteristic of the internal labor market of community colleges presents a unique opportunity for career analysis.

Higher education has many features of an internal labor market. Ross and Green (1998) reported 68% of all presidents are recruited from the same type of institution. Two types of internal labor markets exist, a single firm internal labor market (FILM) and the occupational internal labor market (OILM) that includes one or more related occupations operating across more than one organization (Althauser & Kalleberg, 1981; Doeringer & Piore, 1971). Althauser and Kalleberg (1981) state:

> firm internal labor markets (FILMs), established by and confined to a single employer (organization, corporation), though not necessarily embracing all jobs in a firm; and occupational internal labor markets (OILMs), existing for incumbent of one occupation or of two or more associated occupations and not necessarily confined to a single employer. (p. 130)

Twombly (1986b) applies the concept of internal labor markets to academia and argues that administrative positions in the community college function as an internal labor market. In general, two-year institutions are considered to be more like each other than not. This suggests community colleges function as OILMs. In a 1981 survey of upper-level administrators of four-year colleges, only a small percentage moved from a two-year institution at any point in their career (Moore, 1986; Moore & Twombly, 1985) once again supporting the OILM concept. Ross and Green (1990) also assert, "Mobility across institutional types is very limited" (p. 69). The limited movement outside of the institutions and the similar nature between community colleges allows them to be considered as an OILM.

The two primary sources of individuals promoting to the presidency in community colleges are the CAO and top executive positions (Cohen & March, 1974; Plotts, 1998; Ross & Green, 1998; Twombly, 1986b). Minimal movement was found between these career lines resulting in these administrative positions functioning as their own internal labor markets protecting top-level positions for its members (Twombly, 1986b). Ross and Green (1990) confirm this citing 32% of the presidential positions are filled from within the same institution. Ross and Green (1990) also argue that US higher education institutions have a pecking order and that it is difficult to move up to an institution of more prestige without making a lateral move first. Community colleges frequently hire from within their own institution and administrators who have previously worked in a community college have little mobility into the four-year institution market (Moore, Twombly, & Martorana, 1985). This appears to present the presence of a FILM within a community college and potentially within a community college region.

Vaughan (1990) demonstrates that the community colleges by their nature are provincial. He explains that 45% of the presidents and 49.4% of the CAOs (Deans of Instruction) were holding positions in the same state in which they graduated from high school. Similarly, 37% of the women deans, 52% of the male deans and 63% of the African-American deans are still in state. It appears that one of the hallmarks of the community college is limited external mobility.

Summary

Researching the CAO position is an opportunity to observe the career mobility of a high level administrator that is most likely to be the one to assume the presidency. The four major approaches covered in this section provide a short synopsis of the viewpoints through which career mobility may be observed. Coupled with internal labor market theory, patterns can begin to emerge that point to potential barriers to advancement. Some of these barriers to mobility may be more effective against women than against men. While a number of initial studies have provided valuable information, examinations of a specific population of administrators has not been accomplished. In this sense, the current investigation was developed to examine, and hopefully provide a clearer picture of the mobility process in one specific position (CAO), for one specific type of institution (public, comprehensive community college). Equally important is the opportunity to examine the mobility process with attention to potential barriers faced by women in the position.

CHAPTER III

METHODOLOGY

The introductory chapter of this study outlined the limited research on women chief academic officers in community colleges conducted in the past 5 years. To have a comparison by which to gauge the quantity of published research on this topic, an ERIC database search of articles published from 1966 through 1999 associated with college or university presidents yielded 7250 publications. In contrast, when a similar ERIC database search was completed on CAOs in the college or university setting, a total of 124 titles were identified. This reduction in the volume of published documents relating to the position of CAO when compared to the presidency is also found in the community college arena. An ERIC database search for articles pertaining to the CAO of community colleges yielded 34 publications during the 1966 to 1999 time frame. Of these 34 documents, 4 had been published in the past 5 years.

The nature of these four most recent community college articles relating to the CAO position was diverse. None of these articles were specifically focused on the career paths of CAOs. Similarly, none of the articles were specifically profiles of the CAOs of community colleges. Three of the articles concerned topics that impacted the office of the CAOs; however, none of the articles specifically addressed the position of the CAO and the individuals who serve in those positions.

The most recent profile of CAOs in community colleges was by Hawthorne (1994) that was reviewed in Chapter II. In this study, a national mail survey was undertaken in 1991 of public and private CAOs serving two-year community, junior, and technical colleges. The purpose of the study was to create an updated look at the holder of these positions. This study created a profile by reporting the frequency distribution of age, gender, ethnic identification, degrees attained, and number of scholarly publications or presentations made while in that position. A determination of significance in these areas was not undertaken. While this study created the profile intended, the period of time that has elapsed since the survey was made plus the absence of direct comparisons in the areas studied underscores the need for a more comprehensive look at the position of CAO in two-year institutions. Additionally, the career path and mobility of the CAOs were not investigated nor was there a determination of the impact of gender on mobility or career path once again indicating the need for further research.

A void in the information on administrative careers in higher education organizations exists due to the lack of continuity in research efforts. The same information, for the same population, gathered from the same instrument, has not been a methodological consideration. In 1986, the American Council on Education (ACE) began a database to profile the professional and personal characteristics of college and university presidents. Since its inception, the National Presidents' Study (hereafter called Ace study) annually updates the database and a series of reports on the presidency have been published (1988, 1993, 1998) and may be described as a comprehensive and reliable source of information on administrative careers in higher education.

Beginning in 1997, Brent Cejda initiated a research agenda on chief academic officers. His interests centered on developing a database of CAOs with the hope of periodic updates to enable longitudinal analyses (B. Cejda, personal communication, October 1998). Each of the ACE presidential profiles revealed that CAO was the most common position title prior to assuming the presidency, indicated by 26.5% of the respondents in the most recent report (Ross & Green, 1998). Accepting Carroll's (1991) call for the examination of various levels of the administrative hierarchy, and based on ACE's presidential profiles, Cejda has argued that the CAO is the most logical position to investigate (Cejda & Rewey, 1999). In order to provide continuity in the means of gathering information, Cejda asked and received permission to revise the ACE survey from Marlene Ross, the principal author of the ACE reports (M.R. Ross, personal communication, October, 1998).

From August of 1997 through July of 1998, Cejda developed a database of CAOs in four-year colleges and universities (Cejda & Rewey, 1999). In October of 1998, Cejda began to gather information concerning CAOs in public community colleges and sent an initial mailing to CAOs in seven states. After discussing my interest in the careers of women in higher education, Cejda agreed that if I gathered information on the CAOs in the remaining 43 states, I could use the database for this research study.

The methodology section describes how the database was developed as well as how this study was conducted. This chapter describes that process in sections that detail: (a) the research design, (b) the population of the study, (c) piloting efforts, (d) data collection methods, and (e) data analysis. Strategies employed to ensure reliability of data and findings anticipated prior to data collection are also discussed.

Research Design

In order to develop a database, Cejda utilized a mail survey design with an initial mailing to the entire population identified followed by a repeat mailing to non-respondents. As an inducement to increase the response rate, a copy of the results was offered to the respondents. Cejda stated that he selected the survey design as an inexpensive way to gather information. Alreck and Settle (1995) point to flexibility and versatility in format and use, the ability to efficiently contact people across the country, and its ability to measure complex components as additional benefits of the mail survey design. For the purpose of this study, a final stage in the research design was an independent reliability check of the data, which was performed by a third party.

Survey Instrument

As mentioned above, the questionnaire was a modified version of the instrument used for the ACE Presidents' study. A copy of the survey used for the study appears in Appendix A. Dr. Marlene Ross, the principal investigator of the ACE study, granted permission for the survey to be modified to gather similar data concerning CAOs (M.R. Ross, personal communication, October, 1998). In the process of revising the ACE survey for collecting data concerning CAOs, every attempt was made to keep the instrument as close to the original form as possible. An initial draft of the revised instrument was first sent to Dr. Ross for her comments. Following the suggestions of Dr. Ross, one further revision was made to insure greater clarification of the ethnic background of CAOs. The survey consisted of a series of question designed to illicit institutional type, mode of movement, number of years in the position, type of contract, and title of the position for the five jobs held prior to the office of CAO. In addition, demographic information including age, gender, race, marital status, and degrees attained was garnered to create a profile of the current CAO. The questionnaire had previously been pilot tested by eight CAOs in four-year institutions, representing the respective Carnegie classifications, and used to gather information on CAOs from 1372 colleges and universities.

Population of the Study

The population of this study was the entire population of administrators functioning in the capacity of CAO for public community colleges under state or local control belonging to the American Association of Community Colleges (AACC). In order to identify this population, a membership list was secured from the AACC. This population of 1487 institutions was limited to public community colleges by identifying: (1) accredited institutions that are state or locally controlled, and (2) institutions that offer programs of study focused on both the academic (transfer) and vocational (job training) missions of the public community college. The Higher Education Directory (Rodenhouse, 1998) was the main source utilized in limiting the AACC population. In a few cases there appeared to be a question of the status of the institution. In order to resolve those cases, three state departments of education and six individual institutions were contacted to clarify information. Using these criteria, a population of 628 public community college CAOs was identified from the 1487 AACC member institutions.

Some of the CAOs identified served institutions that were part of multi-campus community college systems or districts organized such that the CAO position had been centralized in a single office. In these instances, only the individual occupying the centralized CAO position was surveyed.

Pilot Study

The revised survey instrument was piloted with 10 CAOs randomly selected from the membership list of AACC during the month of October 1998. The intent of the pilot was to improve the instrument. Each participant in the pilot study was asked whether the questions were clear and appropriate, and whether additional questions should be asked. Feedback from the participants indicated the need to revise the job history section to include a fourth previous job. This adjustment was incorporated into the questionnaire to assure the identification of the initial entrance into the field of higher education.

Procedures for Collecting Data

Survey participation was solicited during the 1998-1999 academic year via mail. As mentioned above, Cejda sent an initial mailing to the CAOs in seven states in October. The responses were requested to be returned by the middle of November. This time frame is consistent with the recommendations of Alreck and Settle (1995) as generally 95% of all responses will be received within three or four weeks following a mailing. At this point in the project, I joined the research program in progress and the decision was made to expand the survey to include the remaining 43 states. This expansion to a nationwide study allowed the opportunity for me to conduct the follow-up mailing for the seven initial states, conduct both mailings for the remaining 43 states, and formulate the data set for all 50 states. Information from this database was then used to complete this dissertation study.

To accomplish the expansion of the research effort, the remaining 43 states were divided into three geographical groups from the East to the West coast ranging from 10 to 15 states per group. Each geographical group was surveyed using the previous time frame, with six weeks to respond to the initial mailing and a follow-up mailing two weeks after the initial deadline. These three groups were surveyed beginning in January with the final cutoff date for the last group ending in May.

The mailings consisted of a letter explaining the study (Appendix B), a survey form to complete (Appendix A) and a postage-paid return envelope. This initial mailing was sent to the population of 628 individuals at institutions that matched the definition of public community college. The follow-up mailing sent six weeks past the deadline consisted of a reminder letter (Appendix C), a second survey form and a postage-paid return envelope.

During the survey period, 15 instruments were returned with a notice "moved with no forwarding address." The returns reflected 14 instances where the CAO had moved and there was not a current person filling that position and one instance where the institution itself had closed. After accounting for the returns, a total of 613 individuals remained to potentially respond to the survey. The initial mailings resulted in a return of 317 useable surveys (52%). The follow-up mailings resulted in a return of 52 additional surveys. A total of 369 usable questionnaires were returned including all mailings, yielding an overall response rate of 60%. Alreck and Settle (1995) advise that mail surveys frequently have a response rate of 5-10% and surveys with response rates over 30% are exceptional. Previous studies of a comparable nature have similar response rates. In her profile of 2-year CAOs, Hawthorn (1994) had a response rate of 57%. Likewise, Vaughan (1990) had a 53% response rate on his community college deans of instruction survey effort. Having achieved a very high response rate compared to the Alreck and Settle recommendation and an equivalent response to other CAO surveys, it was determined it would be appropriate to begin analyzing the data rather than expending additional financial resources to gain a low percentage increase to additional follow-up efforts.

Confidentiality

The information collected in this study was sensitive in nature. Thus, procedures were developed to protect the rights and privacy of all individuals who participated in the research effort. A description of the research proposal, copies of the cover letters and copies of the survey instrument were submitted and approved by the University Human Subjects Committee (Appendix D). Using individual names and the names of institutions for mailing purposes only provided confidentiality for the respondents participating in the survey. All data were grouped so that specific institutions and respondents could not be identified. Finally, individual and institutional names were left off all printouts of the data.

Bias

Bias is, "The tendency for some extraneous factor to affect the answers to survey questions or the survey results in general, in a systematic way, so that results are "pushed" or "pulled" in some specific direction (Alreck & Settle, 1995, p. 442). To reduce the amount of bias present in this study, the entire population of CAOs in public community colleges with membership in the AACC was contacted. To increase the number of respondents thus enhancing the confidence level of the results, a second copy of the survey with an accompanying letter of request was mailed.

Non-response bias is a serious problem as some demographic groups may be over or under represented when many individuals fail to respond. After the second mailing, a response rate of 60% was obtained from the identified CAOs. As this rate is twice the normal response rate identified by Alreck and Settle (1995) for mail surveys and a visual inspection of the data did not raise concerns, the high response rate was deemed sufficient to continue the study.

Validity and Reliability

The validity and reliability of the study is based on the integrity of the ACE studies. Since 1986, ACE Presidential studies have been reported three times. These major investigations provide a wealth of information about the presidency of higher education institutions and are cited frequently by researchers (Noyes, 1994; Plotts, 1998).

Alreck and Settle define validity as, "The degree to which the survey data or results are free from both systematic bias and random error" (1995, p. 457). They also define reliability as, "The degree to which the survey results are free from random error, as opposed to systematic bias, often expressed in terms of confidence intervals or confidence levels" (p. 453). Every effort was made to insure the validity and reliability of the data. The questionnaire was a slight modification of an existing instrument. Every effort was made to retain as much of the original survey as possible. The revised instrument was reviewed by its original author, was previously piloted by CAOs in four-year institutions, and used in a national study. For this investigation, the survey was piloted to the appropriate audience, resulting in an additional question. This question was not of a new format, but an attempt to gain greater clarity be repeating a previous question. Including the entire population in the mailing resulted in a reduction of sampling error and allowed for the results to have a high level of validity and reliability (Alreck & Settle, 1995). Data were coded for analysis and a written guide of coded categories was created to allow for ease of reference and to eliminate error. In an additional effort to assure reliability, an independent observer was secured to substantiate the data. A random sample of 92 surveys (25%) were selected by the observer and directly compared to the coded data set. A total of 3510 data entries were examined, with 3468 correct responses identified for the data set and 42 identified errors. This resulted in a 99% reliability rating for the data.

Procedures for Analysis of the Data

Assumptions for Parametric Analysis

To answer research questions concerning differences between two means, the assumptions of normality and homogeneity first had to be met before the traditional parametric t-tests could be used (Peers, 1996; Sokal & Roth, 1981). Sokal and Rohlf state, "When a t-test is used for the difference between two means, the statistical test is valid only if the variances of the two samples are equal" (p. 402). Peers explains, "The t-test…requires in addition to assumptions underlying the general parametric model, the conditions that the populations from which the two samples are drawn should have similar variances" (p. 119). Thus, the assumptions of normality and homoscedasticity or the equality of variances must be met in order to use this parametric test. When these two assumptions are not met, nonparametric or distribution free tests should be considered (Peers, Sokal & Rohlf).

The Kolomogorov-Smirnov (KS) test is a powerful tool to determine the normality of a data set (Sokal & Rohlf, 1981). In addition, Levene's test is useful to determine homoscedasticity (Morgan & Griego, 1998). These two tests were used to analyze the data from the CAO survey. The KS test determined that the assumption of normality was not met. In addition, the Levene's test indicated the variances of the groups were heteroscedastic. Given the data failed to meet these two important assumptions, the recommendations of Peers (1996) and Sokal and Rohlf were followed to use nonparametric alternative procedures.

Nonparametric Analysis

Sokal & Rohlf state, "When the test is only between two samples (such a design would give rise to a t-test or ANOVA with two classes), we employ either two nonparametric tests, which yield the same statistic and give the same results. The tests are called the Mann-Whitney U-test (MWU) or the Wilcoxon two-sample test" (p. 432). According to Conover (1980), the MWU test actually tests for the equality of distribution functions by using ranks of cases. Conover states, "If there is a difference between population distribution functions, that difference is a difference in the location of the distribution" (p. 217). Accordingly, MWU tests were used to analyze the influence of gender for the research questions in this study and the results reported in this work will be referred to as mean ranks. The summaries of these tests are presented in tabular form in Chapter IV.

SPSS was used to generate contingency tables summarizing frequencies of entrance positions, career paths and other categorical data by gender. The G-statistic, a likelihood ratio test, was used to test the hypothesis that the rows and columns of these contingency tables were independent, or in other words, whether significant differences existed between men and women. The G-statistic is more powerful than the classical Chi-Square test statistic, so it was utilized in this analysis (Sokal & Rohlf, 1981).

In conjunction with the G-statistic above, CHAID (Chi-Square Automatic Interaction Detector) vs. 6.0 for windows (Statistical Innovations, Inc., 1993) was used to identify and analyze the relationships within the contingency tables. The CHAID analysis created a visual "tree structure" or dendrogram identifying what factors made a significant impact on the career paths (Perreault & Barksdate, 1980). Kass summarizes the function of a CHAID analysis as one that, "partitions the data into mutually exclusive, exhaustive, subsets that best describe the dependent variable. The subsets are constructed by using small groups of predictors" (1980, p. 119). Kass further explains:

> CHAID proceeds in steps, first the best partition for each predictor is found. Then the predictors are compared and the best one chosen. The data are subdivided according to the chosen predictors. Each of these subgroups is re-analyzed independently, to produce further subdivisions for analysis. (p.120)

Occupational Titles

One of the challenges of this and other studies of the CAO position has been to find a way to appropriately manage the diversity of titles that is inherent to the position (Arman, 1986; Moore & Sagaria, 1981). From the 85 different titles for the position of CAO that were submitted for the current title of the position held, vice president of academic affairs was 12.74%, dean of instruction was 12.74%, vice president of instruction was 11.65%, and dean of academic affairs was 6.0%. Of the remaining 81 titles held, all have consisted of less than 2% each with 51 titles being unique to one individual each. For this study, it became necessary to pool similar titles together into common categories, as sample sizes would be inadequate for each of the respective titles to be reasonably represented and included in data analyses.

In order to classifying similar titles by the responsibilities of the positions, categories from the Higher Education Directory were utilized. These categories were developed from common reporting mechanisms such as the Integrated Postsecondary Education Data System (IPEDS) and the Higher Education General Information Survey (HEGIS) databases. Further, the pooling of titles into categories of job responsibilities has been a common practice in several similar studies (Ironside, 1982; Moore & Sagaria, 1981; Twombly, 1987). Three individuals with community college administrative experience reviewed the respective position titles of the respondents and identified which titles matched which categories. Each of the titles were coded according to the corresponding category and descriptive statistics were generated using the Statistical Package for the Social Sciences (SPSS) vs. 10.0.0 (SPSS, 1999). Although currently serving as the CAO, the respondents listed the 85 different titles for the position. An initial step in pooling position titles was to designate each respondent into the category of CAO for their current title as they functioned in that positions regardless of which unique title they held. The remaining four previous position titles were grouped into the categories created by the community college administrative panel described above. The categories consisted of the CAO and eight additional categories including: vice president, CSAO, PAO, chair / head of unit, faculty, other higher education position, k-12 education experience and other. Definitions for each of these categories can be found in Chapter One of this dissertation.

The frequencies for each of these title categories for the current position and the first prior position to the CAO were determined using the SPSS statistical package and the results are presented in the next chapter (SPSS Inc., 1999). Following the concept that the order of the positions is not important and that career portfolios are actually in use (Twombly, 1988) a frequency of how many individuals held each position at some point in their career is also provided.

Research Question One

> What is the most common entry port(s) in the career paths of CAOs in public community colleges as self-reported on the modified ACE Presidents' Survey (ACE Survey)?

To answer research question one, a frequency distribution was created of the initial positions in higher education for the respondents.

Research Question Two

> Are the entry ports accessed by CAOs in public community colleges different for men than for women as self-reported on the ACE Survey?

To answer research question two, a contingency table was created from the 367 respondents and a G-statistic, a likelihood ratio test, was used to answer whether gender and entry port are independent.

Research Question Three

> In comparison to the normative career ladder proposed by Cohen and March (1974), are there common career paths to the CAO position in public community colleges as self-reported on the ACE Survey?

To answer research question three, the 9 position titles for the career path portion of the analysis were grouped to reflect the position on the normative path proposed by Cohen and March (1974). The normative path would entail a sequence of four positions to end at the position immediately prior to the president. A frequency distribution of the resulting normative career paths was created and the percentages fell below the recommended 5% provided by Twombly (1988) in her career path study of internal labor markets. As a result, a distribution frequency of a three-step career path based on the last three sequential positions held was created. A contingency table and a G-statistic were not computed to test whether gender and career path were independent as the cell sizes were too small.

Research Question Four

> Are there differences in the career paths of men and women CAOs in public community colleges as self-reported on the ACE Survey?

To obtain the number of categories that could be used in a CHAID analysis to determine the significant predictors for career paths, two-step career paths consisting of the current and immediately prior position were determined. This is in keeping with the career path research techniques of Twombly (1988). A CHAID analysis and the associated dendrogram were generated to identify whether gender or any other variables significantly influenced career path.

Research Question Five

> Are there differences between the personal characteristics (gender, age, race, degrees, marital status) of men and women CAOs in public community colleges as self-reported on the ACE Survey?

To answer research question five, each demographic variable was analyzed separately. For gender, a frequency distribution of the respondents was created to determine the percentages of each gender.

To identify differences in age, descriptive statistics including the mean and range of age was computed. A MWU test was used to compare the mean ranks of the ages between genders. In addition, a frequency distribution of ages grouped in 5-year spans was created to identify the most common age range as well as to facilitate the CHAID analysis and contingency tables. The 5-year age spans also enabled comparisons with the findings of similar studies.

For race, a distribution of the respondents was created. A contingency table and the G-statistic to determine if gender was independent of race were not completed, as the small cell sizes would be inadequate for all categories to be reasonably represented and analyzed.

To identify differences in degrees earned, a frequency distribution was created. A contingency table and G-statistic to determine if gender was independent of the highest degree earned were not completed, as the small cell sizes would be inadequate for this analysis.

For marital status, a frequency distribution was created. Once again, limited cell size prevented the use of a contingency table and G-statistic to test if gender was independent of marital status.

Research Question Six

> Are there differences in the professional characteristics (years in current position, first prior position, number of positions, years in positions, mode of movement, institutional type worked in), between men and women CAOs in public community colleges as self-reported on the ACE Survey?

To answer research question six, each professional variable was analyzed separately. For the number of years served, descriptive statistics were computed to identify means for each gender. In addition, a frequency distribution for the 5-year service spans was computed allowing for comparisons with previous studies in the field.

To identify differences in the first prior position, a frequency distribution was created of the titles for the first previous position. A contingency table was created and a G-statistic computed to determine whether gender and first prior position were independent.

In order to examine differences between the number of positions held by men and women, four means were determined: (1) the total number of all positions held, (2) the number of higher education positions held, (3) the number of faculty positions held, and (4) the number of administrative positions held. A series of MWU tests were performed to determine if gender and number of positions held were independent.

To investigate the differences in the length of time men and women held their positions, descriptive statistics were used to compute 8 means: (1) total years in all positions, (2) total administrative years, (3) total faculty years, (4) total years in CAO position, (5) years in fourth previous position, (6) years in third previous position, (7) years in second previous position, and (8) years in first previous position. MWU tests were used to examine whether the number of years in position was significantly influenced by gender.

For mode of movement, a frequency distribution was created to determine if men and women CAOs had the same mobility when changing positions. A series of contingency tables with associated G-statistics were computed to test if gender had a significant influence on the mobility of movement between institutions.

Finally, to investigate if men and women CAOs worked for they same types of institutions during their professional careers, contingency tables were computed the associated G-statistics were calculated.

Profile of the CAO

Demographic data gathered from the CAO survey included age, gender, race, marital status, and degrees obtained. This information was used to create a profile for comparison with national studies such as the "American College President 1998 Edition" (Ross & Green, 1998) and "The Top-Line: A Report on Presidents', Provosts', and Deans' Careers" (Moore, 1983). The profile of the CAOs generated was then reconciled with the profile of the next highest level of administration, the presidency.

Anticipated Findings

As mentioned previously, earlier studies have indicated that there is a discrepancy in the number of women attaining the level of CAO (Ross & Green, 1998); therefore, it is expected that there will be fewer women holding the position in public community colleges. Multiple career paths also exist in community colleges (Twombly, 1988). It is anticipated there will be a myriad of career paths in the community college that lead ultimately to the position of CAO. In addition, the career mobility of women is more limited than for men (Moore & Sagaria (1981). It is envisioned that women in this study will have fewer positions and stay in them longer than their male peers.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter presents the qualitative and quantitative techniques used to answer the research questions of the study. The beginning section of the chapter identifies the selection of appropriate statistical techniques to analyze the data. Analyses of the data are then presented according to each of the six research questions. Not all of the respondents completed the entire survey, thus, each analysis will include the number of responses to the respective question. The significance level of all tests was maintained at $p \leq .05$. A summary of the data concludes this chapter.

Determining Statistical Techniques

Prior to conducting any analysis of the data, the major assumptions of normality and homogeneity need to be addressed (Sokal & Rohlf, 1981). To test for the assumption of normality, a Kolmogorov-Smirnov (KS) test was utilized. The results of the KS test were significant for every variable indicating a violation of the assumption of normality for all parts of the data set, $p \leq .05$ (Table 4.1). Considering that the differences in gender may have contributed to the violation of the assumption of normality, the KS tests were repeated on each variable with males and females divided into separate data sets. The data again failed the assumption of normality, $p \leq$. 05. Given this violation of the normality assumption, a Levene's Test was used to test the assumption of the equality of variances (Table 4.1). Six of the 12 variables presented were determined to have heteroscedastic variances. Given the violation of the assumption of normality for all applicable variables plus the violation for half of these same variables for the assumption of the equality of variances, nonparametric techniques were used to analyze the data in this project.

Table 4.1: Test for Assumptions of Normality and Equality of Variances.

Variable	df	K-S Normality Statistic	Sig.	Levene's Equality of Variances	Sig.
Age	360	.071	.000*	.099	.753
Years Current Position	361	.165	.000*	14.067	.000*
Years 1st Prior Position	345	.194	.000*	5.610	.018*
Years 2nd Prior Position	295	.181	.000*	.846	.358
Years 3rd Prior Position	226	.162	.000*	1.535	.217
Years 4th Prior Position	189	.220	.000*	13.530	.000*
Total Faculty Years	303	.156	.000*	1.485	.224
Total Admin Years	327	.112	.000*	4.931	.027*
Total Years Worked	364	.090	.000*	5.167	.024*
No. Faculty Positions	369	.220	.000*	1.214	.271
No. Admin Positions	369	.168	.000*	.542	.462
Total No. of Positions	369	.356	.000*	4.364	.037*

* Indicates significance at $p \leq .05$.

Research Question 1

> What is the most common entry port for academic positions in the career paths of CAOs in public community colleges as self-reported on the modified ACE Presidents' Survey (ACE Survey)?

To determine entry ports in the career paths of CAOs in public community colleges, a frequency distribution of the initial position in higher education for these individuals was created. Of the 367 CAOs that responded to this question, the overwhelming majority entered higher education as a faculty member (51.1%). This one position served as the entry port for more future CAOs than all other positions combined. The position of primary academic officer was the next most important entry port (17.4%), followed by the position of chair or (11.4%).

Research Question 2

> Are the entry ports accessed by CAOs in public community colleges different for men than for women as self-reported on the ACE Survey?

To answer research question 2, a contingency table was created from the 367 respondents and a G-statistic, a likelihood ratio test, was used to test the independence between gender and entry port. The computed G-statistic provides evidence the entry ports for men and women CAOs in public community colleges are the same, G (5)= 2.097, p= .714.

Research Question 3

> When compared to the normative career ladder proposed by Cohen and March (1974), is the number of common career paths followed different for men than women as self-reported on the ACE Survey?

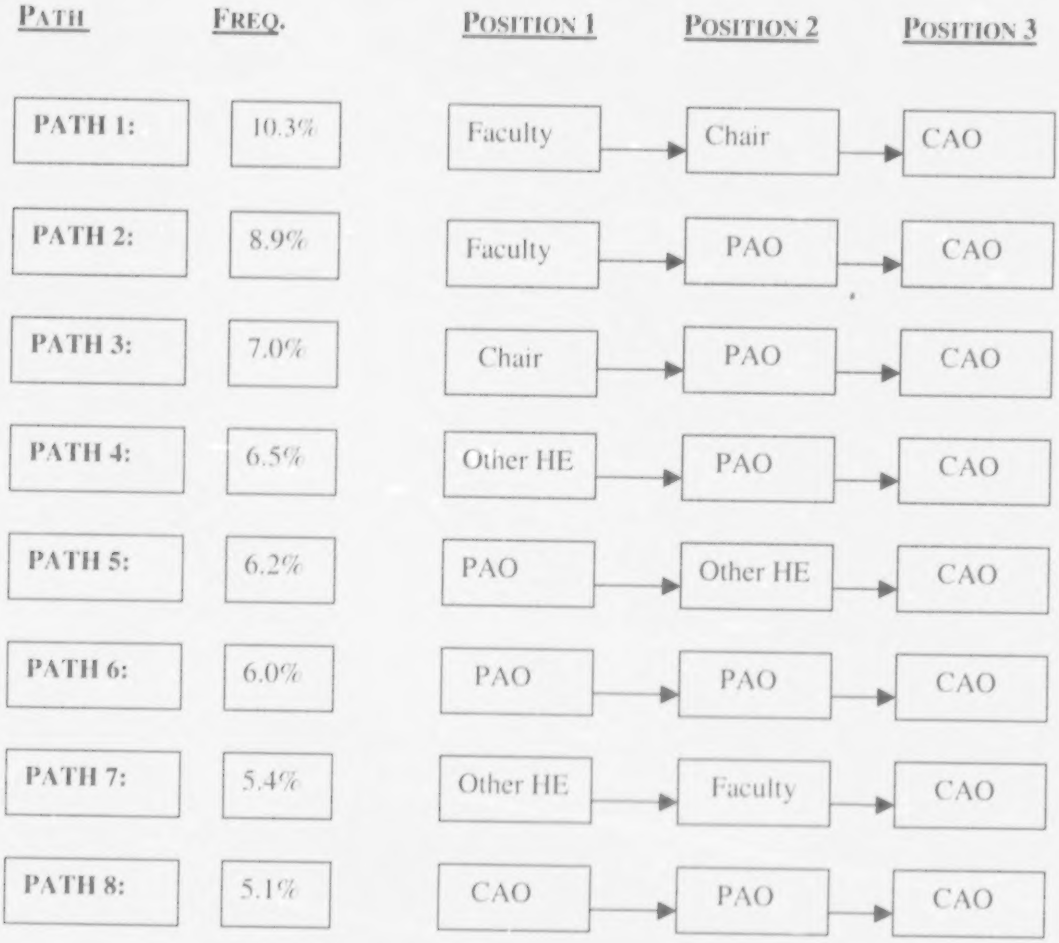
To determine the normative career path for the CAOs in this study, the position titles used in the analysis were grouped to reflect the four sequential positions that determine a normative career path. A frequency distribution of the career paths resulted in the percentages all falling below the 5% recommended by Twombly (1988) in her career path study of the internal labor market in community colleges. Of interest, however, was the number of individuals that fit the "classic" normative path with their four positions prior to attaining CAO. Only 4 individuals or 1.1% of the sample fit the normative career path structured of CAO-primary academic officer (PAO)- chair - faculty.

A three-step career path was then developed using the last 3 sequential positions. This grouping provided 30 career paths allowing this distribution to be used in the CHAID analysis, which has a maximum limit of 31 responses to a variable. Table 4.2 provides the distribution frequency of the career paths generated in this analysis. Career paths that meet the 5% requirement for retention include 10.3% following the path of CAO-chair- faculty; 8.9% with the career path of CAO-PAO- faculty; and 7.0% following the CAO-PAO-chair career path. Also of interest are 5 other paths that were above the 5% cutoff level: CAO-PAO-other higher ed with 6.5%; CAO-other higher ed-PAO with 6.2%; CAO-CAO-PAO with 6.0%; CAO-faculty-other higher ed with 5.4%;

and CAO-PAO-CAO with 5.1% of the respondents. Figure 4.2 provides a visual interpretation of the eight most common career paths found in this study.

Table 4.2: Frequency distribution of the career paths derived from 3 sequential positions.

Path	Current Position	1st Prior Position	2nd Prior Position	Frequency	Percent
1	CAO	CAO	CAO	7	1.9
2	CAO	CAO	Prim Acad Officer	22	6.0
3	CAO	CAO	Chair / Head	3	.8
4	CAO	CAO	Faculty	6	1.6
5	CAO	CAO	Other Higher Ed	18	4.9
6	CAO	CAO	Outside Higher Ed	3	.8
7	CAO	Prim Acad Officer	CAO	19	5.1
8	CAO	Prim Acad Officer	Prim Acad Officer	1.	.3
9	CAO	Prim Acad Officer	Chair / Head	26	7.0
10	CAO	Prim Acad Officer	Faculty	33	8.9
11	CAO	Prim Acad Officer	Other Higher Ed	24	6.5
12	CAO	Prim Acad Officer	Outside Higher Ed	11	3.0
13	CAO	Chair / Head	Prim Acad Officer	3	.8
14	CAO	Chair / Head	Prim Acad Officer	4	1.1
15	CAO	Chair / Head	Faculty	38	10.3
16	CAO	Chair / Head	Other Higher Ed	5	1.4
17	CAO	Chair / Head	Outside Higher Ed	5	1.4
18	CAO	Faculty	CAO	5	1.4
19	CAO	Faculty	Prim Acad Officer	1	.3
20	CAO	Faculty	Other Higher Ed	20	5.4
21	CAO	Faculty	Outside Higher Ed	13	3.5
22	CAO	Other Higher Ed	CAO	15	4.1
23	CAO	Other Higher Ed	Prim Acad Officer	23	6.2
24	CAO	Other Higher Ed	Chair	17	4.6
25	CAO	Other Higher Ed	Faculty	17	4.6
26	CAO	Other Higher Ed	Other Higher Ed	10	2.7
27	CAO	Other Higher Ed	Outside Higher Ed	12	3.3
28	CAO	Outside Higher Ed	Faculty	1	.3
29	CAO	Outside Higher Ed	Other Higher Ed	1	.3
30	CAO	Outside Higher Ed	Outside Higher Ed	6	1.6
	Total			369	100.0



PATH	FREQ.	POSITION 1	POSITION 2	POSITION 3
PATH 1:	10.3%	Faculty	Chair	CAO
PATH 2:	8.9%	Faculty	PAO	CAO
PATH 3:	7.0%	Chair	PAO	CAO
PATH 4:	6.5%	Other HE	PAO	CAO
PATH 5:	6.2%	PAO	Other HE	CAO
PATH 6:	6.0%	PAO	PAO	CAO
PATH 7:	5.4%	Other HE	Faculty	CAO
PATH 8:	5.1%	CAO	PAO	CAO

Figure 4.1 Most common three-position normative career paths for CAOs in public community colleges

Research Question 4

> Are there differences in the career paths of men and women CAOs in public community colleges as self-reported on the ACE Survey?

To determine if the career paths were different for women CAOs as compared to men, and to identify significant predictors for the career paths, a CHAID analysis and the associated dendrogram was generated. The analysis provided evidence that the most important factor that significantly predicts the career path of CAOs in community colleges was the immediate previous position. The second most important factor affecting the career paths was the career entry port. Third and finally, the remaining significant predictor was the number of higher education positions in the career sequence. Gender was not a significant predictor of career paths in this analysis that provides evidence that there are no significant differences between the career paths of men and women CAOs in public community colleges. As the most significant predictor of career path, a distribution frequency for the first prior position was created is presented in Table 4.3. The dendrogram generated by the CHAID analysis is presented in Fig. 4.1. A complete version of the dendrogram is provided in Appendix D.

Table 4.3: Frequency distribution of the titles for the first prior position to the chief academic officer in public community colleges.

Title	Frequency (N=365)	Percent
Chief Academic Officer	106	29.0
Vice President	18	4.9
Chief Student Affairs Officer	22	6.0
Primary Academic Officer	92	25.2
Chair or Head	41	11.2
Faculty	25	6.8
Other Higher Education Position	48	13.2
K- 12 Experience	10	2.7
Other	3	.8

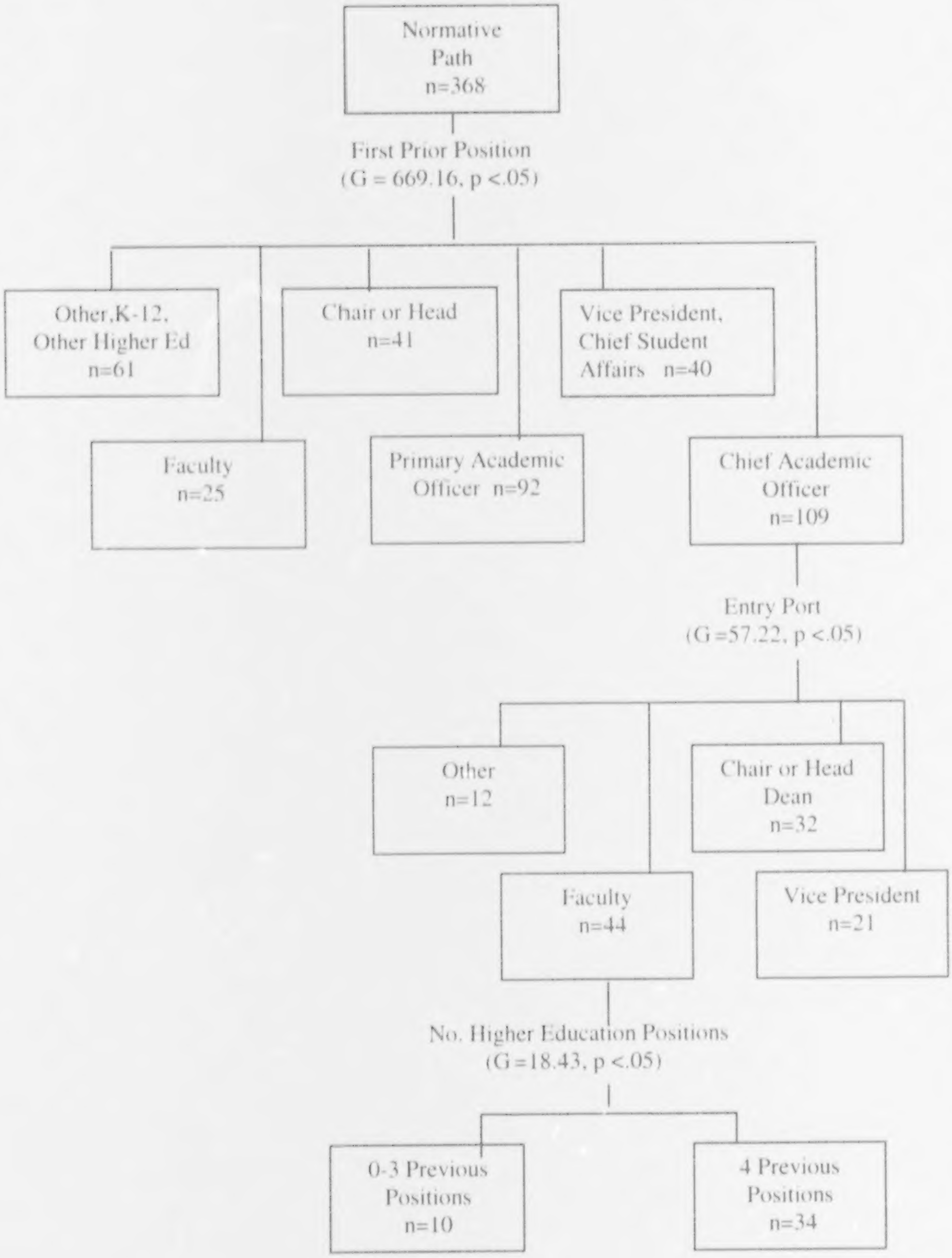

Normative Path n=368
First Prior Position (G = 669.16, p <.05)
Other,K-12, Other Higher Ed n=61
Chair or Head n=41
Vice President, Chief Student Affairs n=40
Faculty n=25
Primary Academic Officer n=92
Chief Academic Officer n=109
Entry Port (G =57.22, p <.05)
Other n=12
Chair or Head Dean n=32
Faculty n=44
Vice President n=21
No. Higher Education Positions (G =18.43, p <.05)
0-3 Previous Positions n=10
4 Previous Positions n=34

Fig. 4.2: CHAID analysis tree of the significant predictors for the career path of CAOs in public community colleges.

Research Question 5

> Are there differences between the personal characteristics (gender, age, race, degrees, marital status) of men and women CAOs in public community colleges as self-reported on the ACE Survey?

Gender

Table 4.4 presents demographic data including the frequency distribution for the 367 respondents who indicated their gender on the survey. Of those respondents, 38.7% were female and 61.3% were male.

Age

Table 4.4 also presents information concerning the age of the 360 CAOs who responded to this query on the survey. The mean age of all respondents was 52.46 years with a standard deviation (S.D.) of 5.70 and a range from 32 to 69 years. The mean age for women was 51.36 years of age and the mean age for men at 53.13 years of age. A MWU test was conducted to evaluate the hypothesis that there is no difference in the age of men and women CAOs in public community colleges. The results of the test were significant providing evidence that the men are older than the women, U (360)= 12502.50, p=0.004. The men CAOs had a mean rank of 192.93, while the women had a mean rank of 160.26.

Table 4.4. Demographic characteristics of chief academic officers of public community colleges.

Gender	Frequency	% Gender	Min. Age	Max Age	Mean Age	S.D.
Female	137	38.7	36	64	51.36	5.36
Male	223	61.3	32	69	53.13	.81
N	367	367	360	360	360	360

Table 4.5: Mann-Whitney U test comparing the mean age of women to men CAOs in public community colleges.

Gender	N	Mean Rank	Sum of Ranks	MWU Statistic	Asymptotic Significance
Female	137	160.26	21955.50	12502.50	.004*
Male	223	192.93	43024.50		
Total	360				

* Indicates significance at $p \leq .05$.

The frequency distribution of ages grouped in 5-year spans (Table 4.6) was used to determine what age range was the most common to the position of CAO. The grouping of respondents into 5-year age spans facilitated use in the CHAID analysis as well as enabling comparisons with the findings of previous career studies. It was immediately apparent that the 50-54 year age span was the most common (36.4%) for the CAOs. The 55-59 year age span represented 25% of the population while the 45-49% represent an additional 18.1%. All other age spans each comprise less than 10% of the responses.

Table 4.6: The frequency of five-year age spans of chief academic officers in public community colleges.

Age in 5-year spans	Frequency (N=360)	Percent
30-34 years	1	.3
35-39 years	5	1.4
40-44 years	28	7.8
45-49 years	65	18.1
50-54 years	131	36.4
55-59 years	90	25.0
60-64 years	35	9.7
65-69 years	5	1.4

Race

The racial distribution of the 360 CAOs that responded to this query was also explored (Table 4.7). Overwhelmingly, the Caucasian component of the sample was predominant (88.0%) followed by African-American (6.3%), Hispanic (3.2%), American Indian (2.2%) and Asian (0.3%). When viewing the racial distribution by gender, there was a greater percentage of women than men in every category with the exception of the Caucasian category where men retained a higher percentage. A contingency table and a G-statistic to determine if gender was independent of race were not completed, as the small cell sizes were inadequate for all categories to be reasonably represented and analyzed.

Table 4.7: Ethnic distribution of chief academic officers of public community colleges.

Ethnicity	Frequency of all CAOs (N=316)	Percent of all CAOs	Frequency of Female CAOs (N=122)	Percent of Female CAOs	Frequency of Male CAOs (N=194)	Percent of Male CAOs
African-American	20	6.3	10	8.2	10	5.2
American Indian	7	2.2	4	3.3	3	1.5
Asian	1	0.3	1	0.8	88	0
Caucasian	278	88.0	103	84.4	175	90.2
Hispanic	10	3.2	4	3.3	6	3.1

Degrees

A frequency distribution of the 367 CAOs that responded to the highest degree attained query was completed. The Ph.D. represented the highest credential obtained by the greatest number of CAOs (41.4%). The second most frequent degree was the Ed.D., attained by 34.9% of the respondents. The remaining portion of the CAOs completed a Master's degree (22.6%) or a professional or other type of degree (less than 1%). No CAOs reported the baccalaureate degree as their highest credential. A contingency table and G-statistic to determine if gender significantly interacted with of highest degree earned were not completed, as the small cell sizes would be inadequate for all categories to be reasonably represented and analyzed.

Marital Status

Table 4.8 provides the frequency distribution created for the current marital status of the CAOs, which overwhelmingly indicates that these professionals are married. Of the 309 individuals that responded, 80.6% were married, 13.9% were divorced, and the remaining categories collectively represented just a little over 5%. When looking at the response of the 118 women and 170 men by gender, 66.9% of the women were married as compared to 89.0% of the men. In addition, 2.5% of the women and 0.5% of the men were separated while 25.4% of the women and 6.8% of the men were divorced. Less than 1% of both the women and men were widowed. Women were more likely than men to be single due to membership in a religious order, 4.2% and 3.1% of the respondents respectively. Once again, limited cell size prevented the use of a contingency table and G-statistic to test if gender significantly influenced marital status.

Table 4.8: Current marital status of public community college chief academic officers.

Current Marital Status	Frequency All CAOs (N=309)	Percent All CAOs	Frequency Female CAOs (N=118)	Percent Female CAOs	Frequency Male CAOs (N=191)	Percent Male CAOs
Married	249	80.6	79	66.9	170	89.0
Separated	4	1.3	3	2.5	1	.5
Divorced	43	13.9	30	25.4	13	6.8
Widowed	2	.6	1	.8	1	.5
Religious Order	11	3.6	5	4.2	6	3.1

Research Question 6

> Are there differences in the professional characteristics (years in current position, first prior position, number of positions, years in positions, mode of movement, institutional type worked in), between men and women CAOs in public community colleges as self-reported on the ACE Survey?

Years Served in Current Position

Descriptive statistics were used to compute the mean number of years served by both men and women in their current position of CAOs who responded to the survey. The mean number of years served by CAOs in their current position was 6.40, S.D.= 5.35. Of the respondents who indicated their gender, the mean number of years of service in the current position of the 122 women was one-year less than that of the 194 men, 5.05 years, S.D.= 4.24 and 6.00 years, S.D.= 5.93 respectively.

A frequency distribution for the 5-year service spans of the 361 individuals who responded to this portion of the survey was computed. The 0-4 year span represented 39.9% of the CAOs' length of service in their current position. The 5-9 year span represented almost the same percentage, 39.1%. It may be deduced that 79% of the CAOs have served less than 10 years in their position.

First Prior Position

To determine the most frequently held positions prior to the CAO, a frequency distribution was made of the titles for the first previous position. Position titles utilized included CAO, vice president, chief student affairs officer, PAO, chair or head, faculty, other higher education position, K-12 experience, other positions outside of higher education. Table 4.2 on page 74 displays the distribution of the positions held immediately prior to the office of CAO. Of the 369 respondents who completed this portion of the survey, 29.0% had also been a CAO in their prior position and 25.2% of them had been a PAO. Other positions in higher education were reported by 13.2% of the respondents, the position of chair or head was reported by 11.2%, and chief student affairs officer served as the title of the prior position for 6.0% of the respondents.

To answer the question how gender affects the first position prior to CAO, a contingency table was created and a G-statistic calculated to test the hypothesis that gender and first prior position were independent. The G-statistic computed does not support the hypothesis that gender significantly impacts the first prior position, G (8)= 11.17, p= .193. Thus, the first prior position for women CAOs in public community colleges was not significantly different than for their male peers.

Number of Positions

In order to examine differences between the number of positions held by men and women, four means were computed: (1) the total number of all positions held, (2) the number of higher education positions held, (3) the number of faculty positions held, and (4) the number of administrative positions held. These means are summarized in Table 4.9. The number of positions held by women CAOs prior to securing the position of CAO was greater than their male counterparts in all categories with the except of the number of administrative positions where men hold more positions than women.

Table 4.9: Influence of gender on the mean number of positions held prior to the office of CAO in public community colleges.

	Total No. Jobs Female	Total No. Jobs Male	Higher Ed Jobs Female	Higher Ed Jobs Male	Faculty Jobs Female	Faculty Jobs Male	Admin Jobs Female	Admin Jobs Male
N	142	225	142	225	142	225	142	225
Mean	3.42	3.26	3.12	3.08	1.23	1.15	1.90	1.95
S.D.	0.88	0.96	1.03	1.11	1.05	1.17	1.41	1.38

A series of MWU tests were performed to determine if women held a significantly higher number of administrative, faculty or total higher education positions than men. The analysis is provided in Table 4.10 and the statistics computed do not support the hypothesis that gender significantly impacted the number of positions held prior to the level of CAO, p≤.05.

Table 4.10: Mann-Whitney U test comparing gender to the number of positions held prior to the office of CAO.

	No. of Total Higher Ed Positions	Total No. of Positions	No. of admin positions	No. of Faculty positions
MWU Statistic	15945.500	14581.500	15671.000	14856.500
Mean Ranks Men	183.87	177.81	185.35	179.03
Mean Ranks Women	184.21	193.81	181.86	191.88
Asymp. Sig.	.974	.111	.754	.239

Years in Positions

In an effort to determine any differences between the number of years men and women serve in faculty and administrative positions, descriptive statistic were used to compute seven means: (1) the total number of years held in all positions, (2) the total number of years held in all administrative positions, (3) the total number of years held in all faculty positions, (4) the number of years in CAO position, (5) the number of years held in the fourth prior position, (6) the number of years held in the third prior position, (7) the number of years held in the second prior position, and (8) the number of years held in the first prior position. The results from this analysis are summarized in Table 4.11.

MWU tests were conducted to determine if men and women CAOs held their positions for the same number of years. The MWU statistics are presented in Table 4.12. The results of these tests provide evidence that women held 6 of the 8 categories of positions less years than men. Of these positions held for less years, the first, second, and fourth prior positions were significantly less. However, women CAOs held the total years of all positions and the third prior position for more years than men CAOs with the number of years in the third prior position being significant. These computations support the hypothesis that women CAOs generally hold their positions fewer years than male CAOs in public community colleges but usually not significantly so, and that in some positions, women may serve more years than their male counterparts.

Table 4.11: The mean number of years served for all categories of positions prior to CAO in public community colleges.

Position	N	Mean	S. D.
Total All Positions Men	158	20.93	16.22
Total All Positions Women	102	21.82	13.09
Total Administrative Years Men	188	14.79	11.52
Total Administrative Years Women	116	13.59	9.57
Total Faculty Years Men	167	12.17	11.55
Total Faculty Years Women	118	11.90	9.87
Years in CAO Position Men	221	6.76	5.93
Years in CAO Position Women	139	5.81	4.24
Years 4th Previous Position Men	101	4.96	3.96
Years 4th Previous Position Women	86	3.64	2.38
Years 3rd Previous Position Men	129	4.50	3.33
Years 3rd Previous Position Women	96	4.73	3.12
Years 2nd Previous Position Men	177	5.85	4.62
Years 2nd Previous Position Women	293	5.52	4.18
Years 1st Previous Position Men	208	7.07	5.68
Years 1st Previous Position Women	136	5.43	4.61

Table 4.12: Influence of gender on number of years served in positions in the career paths of CAO for public community colleges.

	Total All Jobs	Total Admin Jobs	Total Faculty Jobs	Total CAO Jobs	4th Prior Job	3rd Prior Job	2nd Prior Job	1st Prior Job
MWU	15643.5	11713.0	10671.5	14788.0	3648.0	5660.0	8941.0	11461.0
M-Rank Men	181.97	167.51	153.55	185.40	101.88	108.88	155.49	185.40
M-Rank Wom.	182.05	156.96	148.56	152.77	85.93	118.54	135.42	152.77
Asymp. Sig.	.994	.326	.625	.551	.042*	.267	.046*	.003*
N	364	327	303	360	189	226	295	345

*Significant at the $p \leq .05$ level.

Mode of Movement

Mode of movement was categorized as internal to the institution, movement within the state, or movement outside of the state. To answer the research question whether there is a difference in the mode of movement during the careers of CAOs, a frequency distribution of mode of movement for all CAOs was created and is presented in Table 4.13. The results support internal mobility continues to increase and remains the strongest type of movement at all positions.

The frequency distribution of the movement outside of state decreased with each successive position from a high of 25.5% with the fourth prior position to 17.7% with the first prior (most immediate) position. This corresponding decrease of the movement outside of state mirrors the internal movement.

Table 4.13: Frequency distribution of mobility type for positions on the career paths of public community college CAOs.

Mode of Movement	4th Prior Position (%) (N=239)	3rd Prior Position (%) (N=295)	2nd Prior Position (%) (N=343)	1st Prior Position (%) (N=367)	Current Position (%) (N=368)
Internal to Institution	29.3	42.4	46.9	60.8	58.2
Within State	37.7	30.8	28.6	20.2	17.7
Outside State	25.5	21.4	21.9	17.7	23.6
Outside Higher Ed	7.5	5.4	2.6	1.4	.5

To answer the research question if mode of movement is different for men and women CAOs, contingency tables and their associated G-statistics were computed and the results provide evidence that men and women do not have significantly different mobility during their careers as CAOs in public community colleges (Table 4.14). The cell sizes in three of the five likelihood ratio test fell below the suggested minimum level of five for this analysis. In each case, the expected counts did not exceed the 20% recommended limit suggested in the SPSS usage manual by Morgan and Griego (1998). The decision to retain the analysis with cell values below the minimum of 5 is supported by Conover (1980) who states that if the rows by columns are not too small, then acceptable expected values may be as small as one. Sokal and Rholf (1981) provide further support with their recommendations that it is acceptable to have up to 20% of the expected cells with counts less than five. In addition, Peer (1996) states it is acceptable to have one or two expected cells below the minimum of 5. As each of these tests in question had 20% or less of the expected counts with less than 5, the decision to accept the analysis was made. However, caution should be maintained whenever using these values to make any generalizations.

Table 4.14: The relationship between gender and the mobility of movement from one institution to another during five moves in the careers of CAOs in public community colleges.

Mobility of Move	N	G-Statistic	df	Men's Mean Ranks	Women's Mean Ranks	Asymp. Sig (2 Tail)
Current Job	367	4.660*	4	179.83	190.61	.402
1st Prior Position	366	6.347*	4	189.35	174.27	.175
2nd Prior Position	342	1.710*	4	173.13	168.87	.789
3rd Prior Position	294	2.237	4	148.81	145.60	.692
4th Prior Position	238	3.594	4	124.55	112.53	.464

*Indicates contains cells with expected counts less than 5 (less than 20%).

Another facet of the research question whether men and women CAOs have the same mobility, the types of institutions the CAOs worked for during their careers was also explored using a series of G-statistic tests. A summary of these results (Table 4.15) fails to provide evidence that there is a statistical difference in the types of institutions these administrators served in during their professional careers.

Table 4.15: The relationship between gender and the type of institution an individual works for during their career moves on the path to CAO in a public community college.

Type of Institution Moved From	N	G-Statistic	df	Asymp. Sig.. (2 Tail)
1st Prior Position	307	1.795	3	.616
2nd Prior Position	302	2.080	3	.556
3rd Prior Position	259	1.764	3	.623
4th Prior Position	213	.365	3	.947

Profile of Women CAOs in a Public Community College

The profile of a woman CAO in a public community college portrays a 51-year-old Caucasian female who is married and has earned a Ph.D. She has served in her current position for a little over five years and entered higher education with a faculty position. She has held approximately three positions in higher education of which two were administrative and one was faculty. Her immediate prior position was as a CAO at another institution. At some point in her career path, she held the position of primary academic officer. Her profile differs from her male peers in four ways. First, she is one-year younger than her male peers. Second, she has served in her current position for less time than her male colleagues. Third, she has held more positions in her career, but not at a number that is significantly different. Fourth, even though she had held the majority of her academic and administrative positions for fewer years than her male colleagues, only the time spent in the initial, the second and fourth positions prior to the CAO were significant.

Summary

The data used for this study was provided by 369 CAOs who were currently serving in a public community college with a membership in the AACC. The response rate for individual questions varied from a high of 369 responses to a low of 189. The lower response rate came primarily from queries requesting information about the CAOs fourth and third prior positions. It may be possible that a number of these individuals either chose not to look up information about their prior positions that was distant enough to be out of memory, or they did not have four prior positions before becoming the CAO. Failure of the tests for the assumptions of normality and equality of variances led to the use of nonparametric tests.

The most common entry port into the public community college for both men and women was a faculty position and there was no evidence to support a significant difference in entry ports by gender. CHAID analysis revealed the immediate previous position, the career entry port and the number of higher education positions held were the significant predictors in obtaining a CAO position.

In terms of personal characteristics, no evidence was found to conclude that gender impacted the career path leading to the CAO; however, men CAOs were significantly older than women CAOs. The vast majority of CAOs were Caucasian and both men and women were more likely to be married than not.

Professionally, both men and women were more likely to hold a Ph.D. as their terminal degree. Women served in the majority of their positions for fewer years than the men, with statistical significance in the initial, second and fourth prior positions. Both men and women were likely to have made a lateral move, serving as a CAO at one institution and then moving to the same position at another institution. Although women generally held more positions than men, and a greater total number of years than men, but not significantly so.

When looking at the mode of mobility, each previous position closer to the office of CAO was generally an internal promotion. Moves out of state, with the exception of assuming the CAO position were less frequent. Gender did not significantly impact the mode of movement between institutions nor did it impact the type of institutions served.

CHAPTER V

CONCLUSIONS, INFERENCES, AND RECOMMENDATIONS FOR FURTHER RESEARCH OR ACTION

This investigation has focused on the career paths and mobility factors that have impacted women in the CAO position at public community colleges. From its inception, the study attempted to quantify these factors for the population as a whole in order to formulate some generalizations about the career paths these academicians follow and whether their career mobility differs from their male peers. In this final chapter, the limitations of the research study will be summarized and conclusions reached from statistical analyses of the data utilized in this investigation will be discussed. Following the presentation of the conclusions, inferences and recommendations for further study or action will be explained.

Research Limitations

In any research project, specific parameters are established which limit the generalization of resulting findings. In an effort to acquaint the reader with the information that limits the applicability of applying the findings of this study to all situations, the delimitations of this study are detailed in the following paragraphs.

Individuals who have obtained a CAO position provided data included in the study. As such, the career experiences of individuals who aspire to, but have not yet achieved a CAO appointment were not considered in this investigation. Additionally, not all institutions have similar administrative structures; therefore, it is assumed that the individual responding to the survey was indeed the CAO.

The response rate to a survey dwindles with the passage of time. In order to complete a timely study and to prevent the data from becoming dated before it was analyzed, a cut off date of 6 weeks following the follow-up mailing to the last geographic group was implemented.

As outlined in Chapter I, authors of both empirical and theoretical literature concur that career mobility is a process influenced by individual, organizational, and external factors. External considerations or factors influencing the career paths of individuals in this study were not considered. In addition, only the position holder provided information regarding their career experiences. As such, organizational considerations or factors that might have influenced the career experiences of these individuals were excluded from the investigation. Finally, due to the nature of survey research, respondents decided whether to respond to all questions and which pieces of information they would not divulge.

CAOs of public, comprehensive community colleges that belonged to the AACC provided the data for this study. As a result, the career experiences of CAOs from other types of two-year institutions or institutions that were not members of the AACC were not included in this research effort. Therefore, the conclusions are limited to the CAO position in public, comprehensive community colleges that belong to the AACC and cannot be applied to the CAO position in other types of two-year institutions, to institutions outside of the AACC, to other positions in the educational hierarchy, or to the entire field of higher education administration.

Research Conclusions and Discussion

While recognizing these limitations, it is possible to draw conclusions from this study. The conclusions and discussion of implications are as follows:

1. Internal labor market theory proves beneficial in examining how an individual begins an organizational career in the community college. One of the three structural features of an internal labor market is a limited number of entry ports to the market. A faculty position emerged as the primary entry port, reported in 51.1% of the CAO's career paths. Primary academic officer (17.4%) and chair or head (11.4%) emerged as the next two most frequent entry ports. Thus, these three positions served as the entry ports for virtually four-fifths (79.9%) of the CAO's. Moreover, the CHAID analysis indicated entry port as the second most important factor affecting the CAO career path.

This finding supports previous research on initial positions that provide access to community college careers. Arman (1986) found that 49.4% of the administrators in community colleges entered their positions from the ranks of the faculty while 50.6% secured a community college administrative position as their first higher education job. Similarly, Boggs (1988) found a faculty position as the most common entry port leading to a community college presidency.

2. The central dogma of the organizational career concept is that all positions constitute a career. The career paths followed by the CAOs in this study challenge this concept. Community colleges allow academic administrative careers to begin without requiring an initial faculty position. In this study, only two of the eight common career paths began with a faculty position and over 36% of the common careers begin with an administrative position. These findings support the concept that there are different career paths and an individual may have a faculty career as well as have an administrative career. In higher education, these are distinct careers. An individual may have a faculty career distinct from an administrative career.

Twombly (1988) supports this challenge to the organizational career concept as she asserts that two-year institutions are more flexible than their four-year sister institutions by allowing administrators to begin their educational careers as an administrator rather than requiring them to advance from the faculty. She further suggested that the high level of educational credentials required for the positions might facilitate this movement into administration from outside the faculty. As mentioned previously, Arman (1986) found 50.6% of the community college administrators initiated their higher education careers with their first position being secured in administration.

3. The findings of this study do not support the career path/job ladder aspect of organizational career mobility and internal labor market theory. The concept of an organizational career points to a structure, most commonly referred to as the career path. In a similar fashion, a second structural feature of internal labor markets is the existence of job ladders. The data from this study did not indicate a normative career path or prescribed job ladder. In fact, the data revealed 299

different career paths for the 369 respondents. Of these 299 paths, 254 were unique to one individual and no path had more than eight respondents.

The analysis of career paths proved to be one of the most challenging components of this study. This is due in part to the plethora of titles used for very similar positions. As mentioned in Chapter 3, there were 85 different position titles for the administrator functioning as the CAO of a public community college. Moore and Sagaria also confronted this obstacle and reported, "There are a number of difficulties in doing research based on occupational titles and categories. One is the problem of classifying similar but not exact titles; another is the problem of same title but real differences in terms of size and mission of the institution" (1981, p.23). Taking the common approach of pooling job titles by area of responsibility (Plotts, 1998) did not resolve the question of career path. To this issue, Arman states, "career paths vary in different types of colleges and administrative positions…It appears that people come to the college presidency and chief academic office by a variety of career routes" (1986, p.112). Vaughan (1990) also identifies the path to the position of CAO as fairly wide with many branches as compared to the narrower path to the presidency. Twombly (1986b) found in her study that top-level administrative careers in community colleges did not always begin with low-level fixed entry positions or follow structured career lines that support for the existence of a traditional internal labor market. Twombly states, "There is no question that there is a labor market (s) within two-year colleges" and contends that, "the labor market characteristics described here suggest a new and different type of labor market" (1988, p. 685). The findings of this study support the idea that higher education organizations are unique. This uniqueness causes them to potentially function as a third type of internal labor market.

4. An individual's career history influences their success in obtaining a CAO appointment. Specifically, the following evidence supported the path dependence assumption:
   a. The CHAID analysis indicated that the immediate previous position was the most important factor that affected the CAO position. Prior to their current

position, 55% of the respondents served either as the CAO for another institution or as a primary academic officer.

b. The number of positions in the career sequence emerged as the third, and final, significant predictor in the CHAID analysis.

Having the first prior position as a significant predictor supports the previous work done in career paths that frequently focus on this variable (Moore, 1982; Ross & Green, 1998). Twombly (1988) identified administrative experience rather than a particular position as the important determinant in the path to the CAO in community colleges. She states, "It is possible that type of experiences or positions held are more important than the order in which they were held" thus introducing the concept of a career portfolio (1988, p. 685).

5. The findings of this study do not support the impact of negative mobility factors on the administrative careers of women. Moore and Sagaria (1981) determined 67% of the women in their study completed their careers in the same institution. They also found men more likely to follow the normative path than women. Spurling (1997) defined an increased teaching responsibility for women as a negative mobility factor. Additionally, Ironside (1982) identified over-investing in a given job position due to lack of mobility as a hindrance in promotion. This study provides no support for these previous findings. There was no significant difference in mode of movement, total number of faculty or administrative positions held, or the likelihood of following the normative career path (using the CHAID analysis) between men and women CAOs. This finding does not preclude other factors not investigated in this study from negatively impacting career mobility of women.

It appears the climate that generated the concern over mobility has changed since the above studies were conducted. This study found that not only is the difference in the number of positions held not significant, but that women CAOs actually moved through their careers more quickly than men by staying in their position fewer years. By not identifying a difference in the number of faculty positions served, it is harder to support

Spurling's contention that women are impeded in their administrative careers by increased teaching responsibilities (1997). Additionally, they were no apparent barriers to mobility of movement as none of the five positions in the career paths analyzed were significantly different for men and women. Given the CHAID analysis did not identify gender as a significant predictor of career path, it appears men and women are equally likely to follow the normative path. Again, caution is urged against drawing the broad generalization that gender has no impact on career path and mobility as this study was not an exhaustive investigate including organizational and external variables.

Inferences

Inferences drawn from this study are presented in the following section. While these opinions have evolved throughout the course of this research study, they are not supported by empirical evidence.

The representation of women in higher education positions has been of concern for numerous years and has been the focal point for many writers and researcher (Aisenberg & Harrington, 1988; Barrax, 1985; Moore, 1982; Moore & Sagaria, 1981). In their work, The Academic Marketplace, Caplow and McGee address the status of academic women in the early 1960's with their statement, "As suggested elsewhere, women tend to be discriminated against in the academic profession, not because they have low prestige but because they are outside the prestige system entirely and for this reason are of no use to a department in future recruitment" (1961, p.111).

Since 1961, women have made some progress in attaining top-level administrative positions. Moore (1983) cites that in 1981, 8.3% of the presidents and 13.6% of the provosts in four-year institutions were women. Ross and Green (1998) reported that in 1986, 9.5% of all presidents of higher education institutions were women and that number increased to 16.5% in 1995. Women presidents for public two-year institutions represented slightly less than the overall presidential figures with 16.4% of the respondents in 1995. Ross and Green also reported that in 1995, 21.6% of the new presidents were women providing a substantial increase from the1986 figures. This increase in women attaining administrative positions in higher education is confirmed by this CAO study with women comprising 38.7% of the respondents in 1999 while men comprised 61.3% (Table 4.4). These figures support the observation that there is a gradual increase in the number of women attaining administrative positions in higher education.

The length of time served for each position is another component in the factors that determine an individual's career path. A MWU test was utilized to determine if gender significantly influenced the number of years served per academic and administrative position and the analysis revealed the total number of years of all positions, the total number of years for administrative positions, and the total number of years for faculty positions all had no significant effect. However, when the number of positions is analyzed by gender, women held more position than men during their careers. It would appear women spend less time in each position as they are advancing through their positions more quickly.

The representation of racial or ethnic minorities in higher education positions has also been of concern for numerous years (Andrulis, 1975; Frances & Mensal, 1981; Moore, 1982; Moore & Johnson, 1989; Opp & Smith, 1994). Once again, previous research on higher education presidents in general provides a point of comparison for inferences drawn from this study. In the sequence of ACE surveys, Ross and Green determined that the percentage of presidents representing racial or ethnic minorities had increased from 8.1% in 1986, to 10.4% in 1990, and to 13.2% in 1995 (Ross & Green, 1998; Ross, Green, & Henderson, 1993). Public two-year institution presidential figures present very similar results, showing 8% racial or ethnic minorities in 1986 during which time they represented 15% of the total population. This figure increased to 12% in 1995 at which time they represented 17% of the total population. The finding of 9.8% ethnic or racial minorities in this study (Table 4.8) is lower than the 12% found by Ross and Green. While this data may reflect the choice of 15% of the respondents to not designate their race or ethnicity, it does not enable the inference that minority representation is improving or has the potential to improve.

The gender of minorities in the CAO position provides another means to view their profile. In each instance, a higher percentage of minority members are women. In the instance of African-Americans and Hispanics, the CAO survey provided similar results to the ACE presidential figures. Among the CAOs, 6.3% are African-Americans, which represented 8.2% of the women CAOs and 5.2% of the men CAOs. The CAO survey found Hispanic constituted 3.2% of the total population, which represented 3.3% of the total women and 3.1% of the total men CAOs (Table 4.6). The representation of American Indian and Asian minorities reflected less than 1% each of the total respondents to the ACE presidential surveys in both 1995 and 1998 (Ross & Green, 1998). In comparison, these minorities comprised 2.2% and .3% of the respondents in this study (Table 4.6). In both groups, women were more highly represented than men with American Indian women contributing 3.3% while their male counterparts contributed 1.5%. Asian women represented 0.8% of the CAO population while Asian men were not represented. It appears that efforts to enhance the movement of women into higher education have resulted in improving the opportunities for minority women over minority men by addressing gender concerns.

A final inference in this study revolves around marital status. Moore (1983) found 89.9% of the men 42.4% of the women academic deans in four-year institutions were married. Similarly, Moore, Twombly, and Martorana (1985) found 90% of all male administrators and 60.7% of the female administrators in two-year institutions were married. The findings of this study indicate that marital success has declined in subsequent years. As shown in Table 4.7, 80.6% of all the respondents were married. These married figures included 89.0% of the men and 66.9% of the women. The lower percentages of marriage for women provide an indication that women may have other factors impinging on their balance of marriage and career.

Recommendations for Further Research or Action

The following list of recommendations for further research reflects only a component of the broad area of community college research and mobility studies that have not been addressed.

1. Develop a survey instrument that reduces the large range of position titles to a number more easily handled allowing more comprehensive analysis of various aspects of the careers without continuous concern for limited sample sizes. In addition, having the survey instrument designed such that the respondents choose the title closest to their own position would remove some of the difficulties found in coding responses. Arman (1986) and Moore and Sagaria (1981) were challenged by these same factors in their studies highlighting the need for this attempt at creating a position title guideline. By limiting the number of possible responses and allowing them to choose the most appropriate title, fewer decisions about how to appropriately code the data will arise allowing for greater accuracy in the data.
2. Continue research addressing the question of whether academic administrators in public community colleges actually have multiple careers such as a faculty career and an administrative career. Given the variety of titles used in this study, it quickly became apparent that some of the career paths might overlap if the spurious job position titles were amended. By removing the uniqueness of the titles from the positions, it then becomes possible to actually come to a greater understanding of what career paths might consist of and how they might function in the community college. In addition, examination of any transitional issues or barriers between administrative and faculty careers might be able to help interested individuals more effectively make the transition.
3. Continue research using the internal labor market theory in public community colleges to address the question of a potential third type of internal labor market. As the existence of a labor market is recognized, the potential for identifying the unique factors that make this potential new labor market different than the other two provides the opportunity to better understand careers in higher education as well as provide information that might be instructive to persons aspiring to administrative positions.

This area of research might also speak to what sources of potential administrators may be the best to explore when searching for candidates external to higher education.

4. Replicate this study in other two-year settings including technical colleges, branch campuses, and private institutions. The characteristics of two year institutions are constantly changing and by that virtue so are the responsibilities and characteristics of the administrative positions that serve them. By providing a more comprehensive look at two-year institutions in general and the administrators that serve them in specific, these changing characteristics may be potentially identified in career studies and find an expanded alternative use in the overall understand of community colleges. A further enhancement would be to initiate a longitudinal study, thus providing a continuous and intentional look at the evolution of two-year institutions.
5. Investigating careers from the aspect of "what was done" in the positions. In other words—trace administrative functions (budget preparation, supervising employees, presenting things to various constituencies) that help one "move up". These functions could exist in any number of administrative positions potentially leading to a path that might be faculty, fiscal responsibility, supervising responsibility, reporting responsibility, CAO. By investigating careers in this fashion, necessary tools or skills acquired during the career will be the focus rather than positions with ambiguous titles. The actual succession of positions by administrative function may help delineate a series of functional career paths.

Summary

The position of CAO in public community colleges has the greatest influence on the academic program of the institution. Identified by a wide variety of titles, this position is most frequently represented in the community college setting as the dean of instruction. Previous studies have shown that community colleges form a type of labor market including the k-12 realm of education, resulting in a system where upper level administrators are trained within the community college ranks. These seasoned veterans are likely to stay within the community college arena their entire career.

The study of career paths and mobility factors affecting the academic careers of administrators has been a fertile area of investigation for many years. Studies providing profiles of various academic positions have helped to quantify what characteristics these individuals possess. In addition, they have functioned to identify changes in the average administrator and the positions themselves over time. Other studies have focused on what type of jobs the individuals aspiring to an administrative position are likely to hold. Mobility factors including movement between institutions also help to shape the career itself.

This investigation has found that the career paths and mobility factors affecting women as they aspire to upper level administrative positions in public community colleges have changed in the past twenty-five years. While women do not hold CAO positions in equal proportion to their representation in the population, this study has shown that their numbers are gradually increasing. Rather than having their career paths blocked to advancement, women are younger and advance more quickly in their positions than do their male peers. This acceleration of their careers has the potential of providing the inertia necessary to ascend to higher levels of administration should they so desire.

The paths that women follow to arrive at the position of CAO are not clearly defined. Absent is a sequential set of positions the candidate desiring the position should gradually advance through. Instead, a variety of credentials and experiences become the medium of exchange. Classroom experience, obtaining a doctorate, and holding a primary academic office or other administrative position prior to the CAO are part of this value system. Being an internal candidate is also a desirable asset.

While this study does not provide evidence to conclude that gender has a significant influence on the majority of the variables that determine career path and career mobility, it is quite possible that gender does play an important role in how women navigate the features of their careers. Of the variables studied in this survey, only the number of years in specific positions and the age of the CAOs were significantly influenced by gender. Women held their positions for fewer years and were younger when they advanced to the position of CAO. It must also be recognized that there are many factors that influence career paths and mobility that were not included in this study, thus it is imperative that research in this area continue.

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APPENDIX A

SURVEY INSTRUMENT

CHIEF ACADEMIC OFFICER
COMMUNITY COLLEGE STUDY

1. Name of Chief Academic Officer:____________________________________

2. Exact position title (e.g., Vice President, Dean of Instruction):____________________

3. Date appointed to position:____________________________________
month/year

4. Name of Institution:____

5. Did you move to this position from:

_____Within the institution
_____Within the same state system
_____Within the same state
_____Outside of the state
_____Other (please describe)

6. Did you move to this position from a:

_____Four-year college or university
_____Two-year college or university
_____K-12 school
_____Other (please describe)

7. Position held immediately *prior to assuming current position*:

Title:____
Contract type: _____Administrative _____Faculty _____Other (please describe)
For how many years did you hold this position?__________________________

Did you move to this position from:

_____Within the institution
_____Within the same state system
_____Within the same state
_____Outside of the state
_____Other (please describe)

Did you move to this position from a:

_____Four-year college or university
_____Two-year college or university
_____K-12 school
_____Other (please describe)

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8. **Position held immediately *prior to position described in item 7 above*:**
(If position in item 7 is your first position, skip to question 12)

Title:____
Contract type: _____Administrative _____Faculty _____Other (please describe)
For how many years did you hold this position?________________________

Did you move to this position from:

_____Within the institution
_____Within the same state system
_____Within the same state
_____Outside of the state
_____Other (please describe)

Did you move to this position from a:

_____Four-year college or university
_____Two-year college or university
_____K-12 school
_____Other (please describe)

9. **Position held immediately *prior to position described in item 8 above*:**
(If position in item 8 is your first position, skip to question 12)

Title:____
Contract type: _____Administrative _____Faculty _____Other (please describe)
For how many years did you hold this position?________________________

Did you move to this position from:

_____Within the institution
_____Within the same state system
_____Within the same state
_____Outside of the state
_____Other (please describe)

Did you move to this position from a:

_____Four-year college or university
_____Two-year college or university
_____K-12 school
_____Other (please describe)

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10. **Position held immediately *prior to position described in item 9 above*:**
(If position in item 9 is your first position, skip to question 12)

Title:____
Contract type: _____Administrative _____Faculty _____Other (please describe)
For how many years did you hold this position?_____________________

Did you move to this position from:

_____**Within the institution**
_____**Within the same state system**
_____**Within the same state**
_____**Outside of the state**
_____**Other (please describe)**

Did you move to this position from a:

_____**Four-year college or university**
_____**Two-year college or university**
_____**K-12 school**
_____**Other (please describe)**

11. **Please indicate additional employment experience below:**

_____**Years of faculty experience**
_____**Years of administrative experience**
_____**Years of other experience (please describe)**

12. **Please check the highest degree earned and indicate major field of study:**

Highest Degree Earned	**Field of Study**
Bachelor's	____________________
Master's	____________________
Ed.D.	____________________
Ph.D.	____________________
Professional Degree	____________________
(name of degree)_______________	
Other	____________________
(please specify)_______________	

13. **As chief academic officer, to whom do you report?**

President
Vice President
Other (please specify)_________________________________

14. **Gender:** _____ **male** _____**female**

15. **Age:**_______________

APPENDIX B

FIRST LETTER

TEXAS TECH UNIVERSITY
College of Education

Box 41071
Lubbock, TX 79409-1071
(806) 742-2377
FAX (806) 742-2179

April 7, 1999

Dear Colleague:

I write to ask you to devote a few minutes of your time to complete a brief survey instrument to include you in a study of chief academic officers at community colleges.

The position of chief academic officer has been identified as the primary pathway to the presidency of community colleges. There remains, however, limited research concerning the path(s) to this important position.

Your response will be used to answer questions such as the following:

- Who are the academic leaders of community colleges?
- Is there a common profile of chief academic officers?
- Are women and minorities filling more leadership roles?
- Are people moving within or across institutions?

Please take a few minutes to complete the questionnaire and return it by April 28, 1999, using the prepaid self-addressed envelope. If you have any questions, please feel free to contact me by telephone at (806) 742-1997 ext. 273 or by e-mail at bcejda@ttacs.ttu.edu.

Thank you very much for your cooperation.

Sincerely,

Brent D Cejda

Brent D. Cejda, Ph.D.
Assistant Professor of Higher Education

P.S. A note to staff members: This questionnaire is designed so you can complete it by referring to the chief academic officer's resume or vitae. I hope you will assist us in this effort.

An EEO/Affirmative Action Institution

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APPENDIX C

SECOND LETTER

TEXAS TECH UNIVERSITY
College of Education

Box 41071
Lubbock, TX 79409-1071
(806) 742-2377
FAX (806) 742-2179

June 4, 1999

Dear Colleague:

Several weeks ago you received a survey from me. To date my records indicate that I have not received your response. I write to ask you to devote a few minutes of your time to complete the enclosed survey instrument. The current response rate of 55% is good for survey research. My goal, however, is to achieve a rate closer to 75%.

The position of chief academic officer has been identified as the primary pathway to the presidency of community colleges. There remains, however, limited research concerning the path(s) to this important position. Your response is critical to develop a better understanding of academic leadership in community colleges.

Please take a few minutes to complete the questionnaire and return it by June 25, 1999, using the prepaid self-addressed envelope. If you have any questions feel free to contact me by telephone at (806) 742-1997 ext. 273 or by e-mail at bcejda@ttacs.ttu.edu.

Thank you very much for your cooperation.

Sincerely,

Brent D Cejda

Brent D. Cejda, Ph.D.
Assistant Professor of Higher Education

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APPENDIX D

HUMAN SUBJECTS COMMITTEE LETTER

TEXAS TECH UNIVERSITY
Office of Research Services

203 Holden Hall
Lubbock, Texas 79409-1035
(806) 742-3884/FAX (806) 742-3892

October 26, 1999

Dr. Brent Cejda
Ms. Cynthia McKenney
Ed Psychology & Leadership
MS 1071

RE: Project 99259 Career Path and Mobility of Women chief Academic Officers in Public Community Colleges

Dear Dr. Cejda:

The Texas Tech University Committee for the Protection of Human Subjects has approved your proposal referenced above. The approval is effective from October 1, 1999 through September 30, 2000. You will be reminded of the pending expiration one month prior to September 30, 2000 so that you may request an extension if you wish.

The best of luck on your project.

Sincerely,

Richard

Dr. Richard P. McGlynn, Chair
Human Subjects Use Committee

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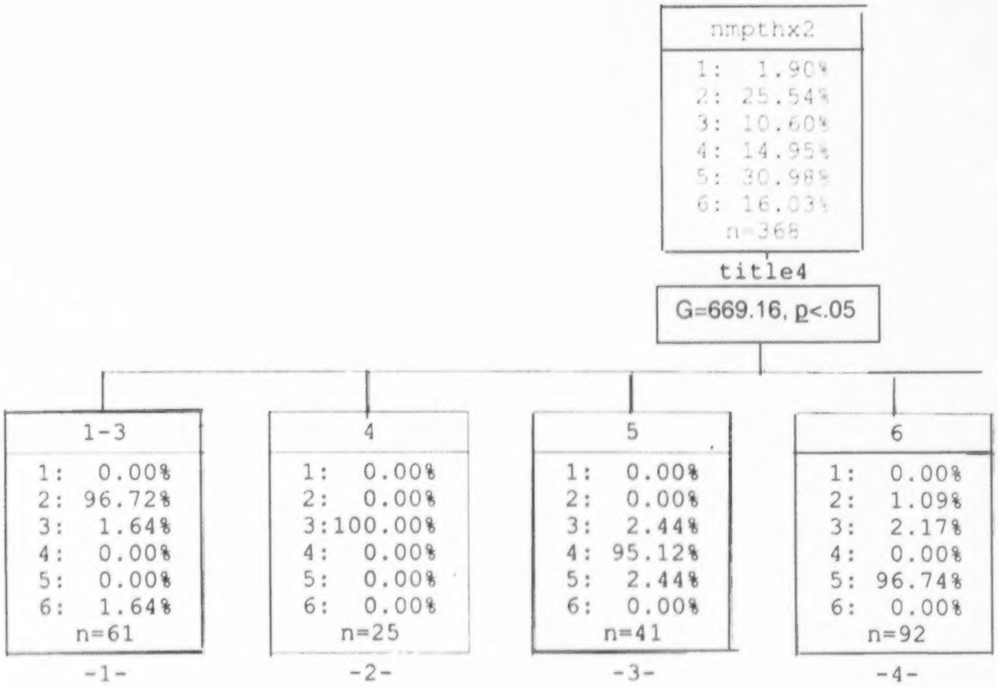
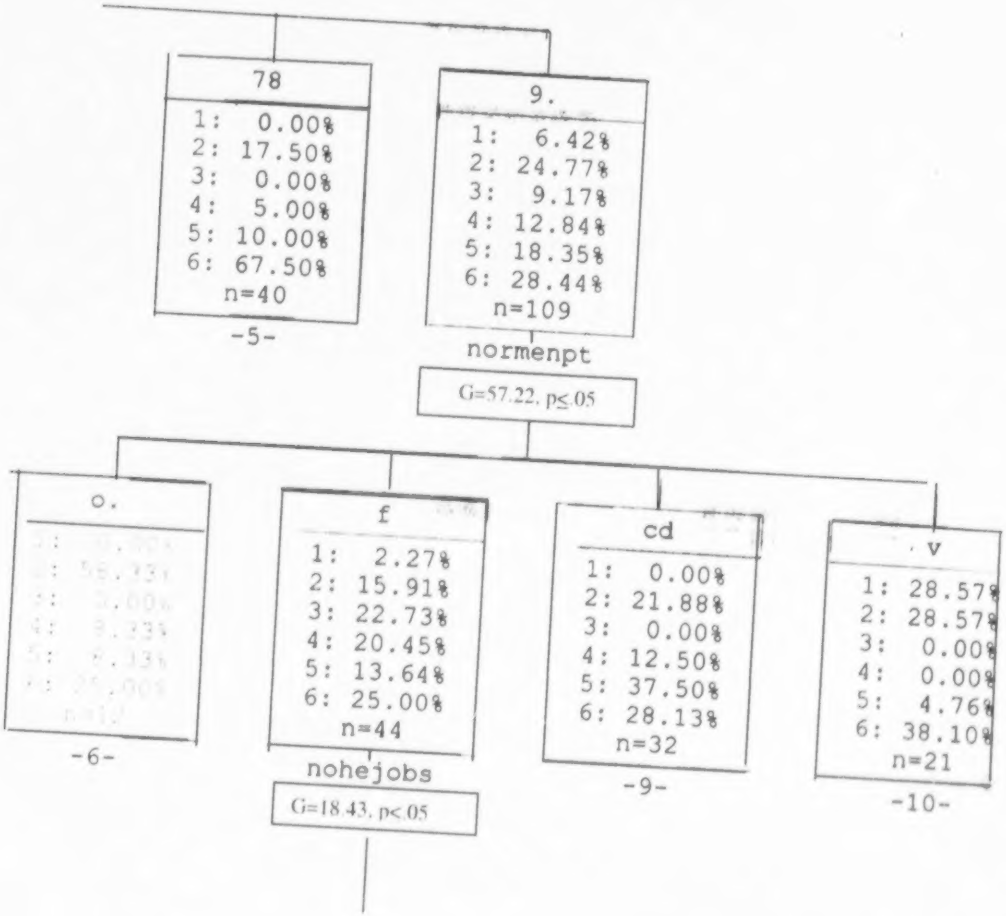
An EEO/Affirmative Action Institution

APPENDIX E

CHAID DENDROGRAM



-1-
Significant Predictors for the Career Path of CAOs



-2-
Significant Predictors for the Career Path of CAOs

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0-3	4
1: 10.00%	1: 0.00%
2: 10.00%	2: 17.65%
3: 60.00%	3: 11.76%
4: 20.00%	4: 20.59%
5: 0.00%	5: 17.65%
6: 0.00%	6: 32.35%
n=10	n=34

5

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Significant Predictors for the Career Path of CAOs

APPENDIX F

CHAID PROCEDURE

CHAID Procedure

To begin the CHAID analysis, all potential significant predictors were entered into the appropriate box in the CHAID program. The normative three-step path was identified as the dependent variable and the following were entered as predictors: normative entry path, type of institution moved from, type of contract in the previous position number, years in previous position grouped in 5 year spans, step on the career path with the prior positions, mobility of move, number of jobs, number of higher education jobs, highest degree attained, field of study, gender, age grouped in 5 year spans, current marital status, and ethnicity.

Moving into the standard options screen, the automatic mode was selected. On the technical options screen, the likelihood ration Chi-Square was selected as well as the option for the Bonferroni adjustment. On the predictor options, the predictor type was set including age and years in position. For data that had an order but was missing a category and could be combined with any other category, the predictor type was set on float. This included current title and entry port. The data that was categorical and could combine in any fashion was designated as free. This included type of institution moved from, type of contract in previous position, step on the career path with prior position, mobility of move, highest degree attained, field of study and all of the demographic data excluding age. After the program had run, the dendrogram, associated gains tables, and predictor documentation were printed.